

Child Health and Migrant Parents in South-East Asia: Risk and Resilience among Primary School-Aged Children*

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Background to the CHAMPSEA Project

This special issue presents findings from a major research project investigating child health and migrant parents in South-East Asia (CHAMPSEA). Its aim is to contribute to the debate about a potential 'crisis of care' in the region as increasing numbers of parents migrate overseas for work, leaving their children behind (Parreñas, 2003). The project examines outcomes for two age groups of children in four study countries: Indonesia, the Philippines, Thailand and Vietnam. Here we focus on primary school-aged children of

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9, 10 and 11 years both because this group tends to be neglected in the current literature on parental migration (but *see* Battistella and Conaco, 1998; ECMI/AOS-Manila et al., 2004) and because these pre-teens may be most at risk of any negative consequences of parental absence if they experience a care deficit. As the articles demonstrate, however, there is no simple distribution of risk and resilience between children living with both parents and the children of migrant parents. Rather there are important differences between countries and significant heterogeneity across multiple dimensions of health and well-being.

The international movement of labor from and within the global south is an increasing trend in many regions of the world, including South-East Asia. Motivations for migration may vary but, for parents of young children, working overseas is typically part of a household strategy aimed at securing an economic future, often by investing in their children's education (Taylor, 1999). Both nations and households have become financially dependent on the remittances sent to family members who stay behind. While gains may be measured in terms of higher wages and increased household wealth, the effects of parental absence on children left behind are under-researched and therefore less clear. On the one hand, children may benefit if remittance monies are spent to improve their well-being and life chances. On the other hand, children may suffer if the absence of a parent results in a lack of social support and guidance, or causes psychological distress. The CHAMPSEA Project is designed to address this knowledge gap.

Three observations provide essential background to the themes discussed in the articles. First, it is important to note that international labor migration, while not a new phenomenon (DFID, 2007), is not a unitary one either. Rather, it represents a range of responses to changing economic, legal and social processes operating at a variety of scales from the globalization of capitalism through the policies of states to the intimacies of the family and the aspirations of the individual. In contemporary South-East Asia, the majority of international migrants take up 2 to 3-year employment contracts overseas that allow them to reside in destination countries only on a temporary basis, even though many migrants complete successive contracts that cover a much longer time period. Table 1 provides figures on the annual deployment of workers overseas for the four study countries, giving an indication of the size of the outward migration flows, although an unknown number of these migrants are parents who leave children behind. One of the distinguishing features of short-term contract migration in Asia and the Middle East is that the possibility of family reunification in the host country is restricted and there is rarely a pathway to citizenship or permanent resettlement for either the migrant or his/her family. When a parent migrates, therefore, other family members remain behind, creat-

TABLE 1
MIGRATION PROFILES FOR STUDY COUNTRIES

Country	(a) Total Population mid-2013 (millions)	(b) Percent of population Ages<15	(c) Infant mortality rate (per 1,000 live births)	(d) GDP per capita US\$ [#] for 2012	(e)			
					Annual Deployment	Documented overseas workers % Female		
Indonesia	248.5	29	32	\$3,557	435,219 (2000)	450,601 (2012)	68 (2000)	56.8 (2012)
Philippines	96.2	33	22	\$2,587	933,588 (2004)	1,470,826 (2010)	74 ¹ (2004)	55 ¹ (2010)
Thailand	66.2	19	11	\$5,480	158,000 ² (2002)	143,795 (2010)	15 (2002)	15.7 (2010)
Vietnam	89.7	24	16	\$1,596	30,000 (2000)	85,546 (2010)	15 (2000)	approx. 30 (2010)

NOTES: [#] GDP per capita is gross domestic product divided by midyear population. Data are in current US dollars.

¹ Percentage applies to land-based new hires only

² Number of documented Thai workers abroad

SOURCES:

Columns (a)-(c): Population Reference Bureau (2013) "2013 World Population Data Sheet." Available at http://prb.org/pdf13/2013-population-data-sheet_eng.pdf, accessed on 4 November 2013.

Column (d): The World Bank (2013) "GDP per capita (current US\$)/Data/Table." Available at <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>, accessed on 4 November 2013.

Column (e):

Indonesia: 2000: "Ford, M. (2001) "Indonesian Women as Export Commodity: Notes from Tanjung Pinang," *Labour and Management in Development*, 2(5):1-9.

2012: Ministry of Manpower and Transmigration of the Republic of Indonesia. "Statistics on Indonesian Workers by Destination Country and Gender." Available at <http://pusdatinaker.balitfo.depnakertrans.go.id/katalog/xdownload.php?i=372>, accessed on 30 July 2013.

Philippines: For 2004 and 2010: Philippine Overseas Employment Administration. "Compendium of OFW Statistics." Available at <<http://www.poea.gov.ph/stats/statistics.html>>

Thailand: 2002: Department of Employment, Ministry of Labour
2010: Huguet, J.W. and A. Chamratrithong, (2011) *Thailand Migration Report 2011*. IOM Thailand. Available at <http://www.un.or.th/documents/tmr-2011.pdf>, accessed on 30 July 2013.

Vietnam: 2000: http://www.eldis.org/vfile/upload/1/document/0903/Dhaka_CP_7.pdf
2010: Consular Department, Ministry of Foreign Affairs of Viet Nam (2012) "Review of Vietnamese Migration Abroad." Available at http://eeas.europa.eu/delegations/vietnam/documents/eu_vietnam/vn_migration_abroad_en.pdf, accessed on 30 July 2013.

ing a transnational household within which relationships must be maintained across distance. The growing academic literature on transnational families sometimes avoids describing children in transnational families as 'left-behind,' preferring to refer to them as children who 'stay behind.' The articles in this special issue use both terms. Although we resist the negative connotations often associated with describing children as 'left-behind,' we maintain that this descriptor does capture the lack of choice for parents on fixed-term contracts and the reduced agency of school-aged children themselves.

Secondly, the feminization of migration from countries such as the Philippines and Indonesia increased during the 1990s, with women comprising 74 percent and 68 percent of the annual deployment of documented overseas workers from the Philippines and Indonesia, respectively, by the early 2000s (*see* Table 1). This increase has engendered particular anxieties because the continuing dominance of traditional gender roles means that care for dependent children and elders usually has to be reconfigured when a mother migrates. Thus, the absence of migrant mothers is often assumed to present greater challenges to left-behind family members than the absence of migrant fathers. Gender ideologies are equally influential in promoting public anxieties about the effects of separation on children. In the Philippines, for example, it is the migration of mothers rather than fathers that has fuelled worries about left-behind children becoming spend-thrift, delinquent, addicted to drugs, and emotionally scarred (Asis, 2006; ECMI/AOS-Manila et al., 2004). Moreover, the challenges for those who stay behind are likely to be faced in circumstances of some uncertainty. The period of separation may be open-ended, stretching from a couple of years to a decade or more. Long absences, combined with a lack of clarity about when the migrant might (be able to) return, are likely to impact on family relationships. Children who remain in the country of origin may be especially affected by the 'ambiguous loss' (Suárez-Orozco et al., 2002) of a migrant parent.

Thirdly, research on transnationalism and intimate relations has tended to focus on adults as the key social agents, leaving children largely invisible (Orellana et al., 2001). Thus children's voices "are usually not heard in the development of policies and programs that are intended to benefit them" (ECMI/AOS-Manila et al., 2004: 8). Further, research attention has only relatively recently turned from the benefits of remittances for transnational households towards the costs of what Ehrenreich and Hochschild (2003:3) called the migrant's "commute." As well as restoring the perspective and agency of children to studies of transnational migration, a key aspiration of the CHAMPSEA Project is to provide a systematic understanding of the impacts (both positive and negative) of living in a transnational household

on children's health and well-being. The articles in this volume use quantitative analytical methods to examine risks and resilience in relation a range of well-being measures for primary school-aged children (including nutritional status, school performance, general happiness, alcohol consumption and smoking behavior) in order to add to the evidence base for assessing the impacts of parental migration on children left behind.

Understanding Risk and Resilience

As Mazzucato and Schans (2011: 705) observed, studies on whether left-behind children benefit from parental migration depend "not only on the outcomes that are studied (economic vs. psychological outcomes) but also on the characteristics of the parent and child." Variability in outcomes is also a symptom of the fact that there are few large-scale quantitative studies that systematically collect comparable data as most studies on the well-being of left-behind children in transnational family arrangements tend to be small-scale, qualitatively driven studies (Mazzucato and Schans, 2011: 705). Even when quantitative methodologies with large sample sizes are used, cross-country comparisons are often difficult to achieve without well-crafted research strategies that systematically incorporate comparability as a design feature. For example, two studies published in the same issue of *Asian Population Studies* on a similar theme – the impact of parental migration on left-behind children's schooling – yield interesting but not directly comparable results. By integrating the Matlab Health and Socioeconomic Survey data with the Health and Demographic Surveillance System, Kuhn's (2006) study of children's pace of schooling in Matlab, Bangladesh, found that parental migration has significant and positive effects on the schooling of left-behind children, even after controlling for the long-term effects of socio-economic status. Focusing on the school enrollment of left-behind children in Kanchanaburi, Thailand, Jampaklay (2006), who used a 2002 and 2003 longitudinal study, found that the effects of migration on school enrollment of children depends not only on the absent status of their parents but also on the duration of their absence. While the study confirmed the positive effect of remittances on schooling, it also concluded that after controlling for remittances and other factors, parental migration has negative effects on the school enrollment of children.

Given the multidimensionality of children's well-being (which may include psychological, social, educational and health outcomes) as well as the limited nature of available evidence and the lack of cross-national comparability, we argue that an approach that may be helpful in making sense of the patchwork diversity of studies is to revisit conceptions of 'risk' and 'resilience' not as independent factors but in tandem, as a productive

pathway to understanding how children's well-being is shaped in the context of parental migration.

Several studies have identified children who are said to be 'at risk' by expressing concern about child delinquency and risk-taking behavior as a result of parental migration. In their study of cigarette smoking among rural adolescents in South China, Gao et al. (2013) found that parental migration in general had unfavorable effects on self-efficacy, which was a strong influencing factor for smoking. More specifically, they concluded that while paternal migration was protective for adolescent smoking, maternal migration increased the risk. Turning to alcohol consumption and internal migration in Thailand, Jampaklay et al. (2012) found that children living in one-parent migrant households were most likely to be involved in alcohol drinking, while those in both-parent migrant households had the smallest chance compared to their peers. Liu (2012) reported that there was a rise in sexual abuse among left-behind children in China, where there are an estimated 58 million left-behind children. In accounting for why these children were at risk of sexual abuse, Liu (2012) explained that about 70 percent of the left-behind children were under the caregiving responsibilities of their grandparents, but that the grandparents were reported to be less watchful over the children and more reluctant to teach them sex education, leaving the children uninformed and hence vulnerable to abuse. Additionally, migrant parents who contacted their children tended to show greater concern over the children's academic performance as opposed to their emotional health.

The limits to these studies indicate that a fuller explanation of children's risk-taking behavior will need to extend beyond an analysis of the social and demographic correlates of the children (as well as those of the parents, surrogate caregivers, household, etc.) prone to risk behaviors (or lifestyle risks) to understanding children's risk perception. As perceptions of risk where the benefits are seen to be more valuable than the risk may translate into risk-taking behavior, it follows that "differences in perception of risks could also explain differences in individual risk behaviour, so that risks that are taken are either perceived as low risks or as associated with very beneficial outcomes" (Hayenhjelm, 2006: 190). Hayenhjelm (2006) usefully suggested that in situations of extreme vulnerability or poverty, four other interconnected explanatory factors may influence risk perception and risk taking: the lack of reasonable options; poor outset conditions such that refraining from taking any action becomes another form of risk taking; hope for change that will better present circumstances; and liability to disinformation, especially in situations where there is no access to significant information, or no means to verify available information. Such an approach recognizes that risk factors are not just individual characteristics but also

ecological or “environmental hazards that increase children’s vulnerability to negative ... outcomes” (Engle et al., 1996: 621).

Inasmuch as more work on the subjective and contextual contours of risk behaviors can usefully supplement the identification of social, economic, demographic and household characteristics associated with these behaviors, a more concerted effort to recognize and understand the nature of resilience in children living in transnational households – as a positive complement to risk – can open up new directions to analyzing children’s well-being that go beyond documenting a “pathology of disadvantage” (Engle et al., 1996: 621). Researchers working on resilience are interested in “why some children manage to come through situations of multiple risks apparently unscathed,” or why certain individuals possess the “predisposition to resist the potential negative consequences of ... risk” (Engle et al., 1996: 622; *see also* Walsh, 1996). They point to three interrelated domains that can enhance protective conditions and potentially strengthen resilience: the individual, the family and the larger social context.

At the individual level, Asis (2006) highlighted left-behind children’s capacity for agency and independence, reporting that some children choose to hide their problems from migrant parents in order not to burden them and instead find their own ways of coping, such as praying to God, minding their younger siblings, and contributing to “home work” and “care work” as positive strategies. At the family level, Walsh (1996) introduced the concept of “family resilience” as a means of understanding family functioning in relation to psychosocial challenges, constraints and resources. At its core, the term signifies “a narrative coherence that assists members in making meaning of their crisis experience and builds collaboration, competence, and confidence in surmounting family challenges” (Walsh, 1996: 261). In this vein, Bryant (2007: 10) suggested that the social costs of parental migration in the context of South-East Asia can be mitigated by the involvement of the extended family in caregiving responsibilities. Support and assistance provided by extended family members can help fill the care deficit in the absence of migrant parents who would in turn be assured that their children will be cared for while they are away (*see also* Battistella and Conaco, 1998; Asis, 2006). Jordan and Graham’s (2012) work pointed out that children seem to be more sensitive to proximate influences, such as their caregiver’s mental health status, than to parental absence, underscoring the significant role that family members acting as surrogate carers play in fostering children’s well-being. Finally, as in the case of research on risk, scholars working with notions of resilience also point to the importance of locating protective factors in the larger social and environmental context. This suggests that building resilience is also associated with the presence

of supportive community organizations for the children of transnational households. One of the lessons from the CHAMPSEA Project is that different actors, including government agencies, civil society, businesses and local communities, need to work together in creating effective legal and institutional frameworks and sustainable mechanisms to support migrant families and their children (*see* Lam et al., this volume).

CHAMPSEA Methodology

The CHAMPSEA Project is a cross-sectional baseline study employing a mixed methods approach to investigate the health and well-being of two age groups of children: (1) pre-school children aged 3, 4 and 5 years; and (2) primary/elementary school children aged 9, 10 and 11 years. Data were collected on children living in both transnational (migrant) and non-migrant households, with the latter used as a control or comparator group in the quantitative analyses. This special issue focuses on the second age group who were themselves interviewed as part of the CHAMPSEA Project. Their responses form the basis of the analyses presented in several of the articles in this volume.

The Sample

In 2008, survey data were collected for around 1,000 index children and their households in each of the four study countries – Indonesia, the Philippines, Thailand, and Vietnam. Follow-up in-depth interviews with a small sub-sample of carers and school-aged children were conducted in 2009. Available national databases on overseas migration for these countries do not include information on migrant parents and thus there was no sampling frame from which to draw a nationally representative sample. Additionally, we noted that high out-migration communities tended to be geographically clustered. We therefore adopted a three-stage flexible quota sampling strategy adapted from “sentinel site surveillance” methods, as used in public health studies (Byass et al., 2002), and based on the method advocated by Wilson et al. (2006) for use in developing countries. Crucial to the strategy was the specification of detailed protocols such that any future replication should produce a sample equivalent to the CHAMPSEA sample in all main characteristics. The first stage used in-country experts to identify two provinces within each study country with international out-migration rates higher than the national average. East Java and West Java in Indonesia, Laguna and Bulacan in the Philippines, Lampang and Udon Thani in Thailand, and Thai Binh and Hai Duong in Vietnam were

TABLE 2
COMPOSITION OF THE CHAMPSEA SAMPLE: NUMBER OF INDEX CHILDREN
AGED 9, 10 AND 11 BY COUNTRY AND HOUSEHOLD TYPE

Study Country	Non-migrant household	Transnational household			Total
		Father migrant	Mother migrant	Both parents migrant	
Indonesia	248	81	150	34	513
Philippines	245	172	66	17	500
Thailand	256	249	2	14	521
Vietnam	230	87	170	24	511
Total	979	589	386	89	2,045

selected as meeting the criterion. This was followed by the identification of high out-migration communities outside the major metropolitan areas within each province, using local knowledge. Communities were then selected to ensure diversity (i.e., both long-established and more recent out-migration communities; or, in the case of the Philippines where international migration was established in the chosen provinces, both rural and more urbanized communities). The final stage involved the recruitment of qualifying households within selected communities (villages in Indonesia, the Philippines (i.e., *barangays*) and Thailand, and communes in Vietnam). The result is a sample for each country that is both replicable and appropriate to the objectives of the CHAMPSEA Project.

Recruitment to the CHAMPSEA survey involved community-based screening to find and select eligible households and index children. Qualifying households had to contain at least one child in a qualifying age group (3, 4, and 5 years, or 9, 10, and 11 years) and to be either (i) a transnational household in which one or both parents had been working overseas for at least six months prior to interview, or (ii) a non-migrant household in which both parents had been usually resident at the same address as the index child for at least six months prior to interview. Separated or divorced couples, single parent households and households where one or both parents were internal migrants were excluded from the survey in order to target resources and reduce analytical complexity. Quotas specified minimum and maximum numbers of households within groups defined by child age and gender, and by migration status (transnational and non-migrant households). Only one index child was selected in each qualifying household. Where two children in the same household qualified for the study,

the selection was made according to which group was most under-quota or, where groups were equally under-quota, by random selection. Although the samples are not nationally representative, they are of sufficient size to conduct comparative analyses. Around half of the 1,000 households interviewed in each country contained index children aged 9, 10 or 11 and Table 2 provides a breakdown of the sample for this age group.

The Survey

Survey interviews were conducted in local languages with one or more members of the index child's household, using three separate survey schedules:

(1) The Household Questionnaire was administered to a responsible adult in the household who identified themselves as able to answer questions on family background and history, and the management and allocation of financial resources within the household. It included a household roster which collected summary information on both resident and non-resident members of the household, as well as regular day visitors.

(2) The Carer Questionnaire was administered to the person who identified themselves as the primary caregiver for the index child. In some cases, the same individual answered both the household and carer surveys; in other cases, it was two different individuals. Although the focus of the questions in this questionnaire was on the index child, data were also collected on those providing care for the child.

(3) The Older Child Questionnaire was administered to index children aged 9, 10 and 11 years, who were the older age group of children in the CHAMPSEA survey. Children were asked questions about their family and their own circumstances, including a series of questions on health-related behavior. Children in transnational households were also asked about their migrant parent/s.

In addition to the three survey instruments, anthropometric measures of height and weight were also taken for all index children.

All survey instruments were compiled in English and then subjected to a rigorous process of translation and back-translation to ensure accuracy. Pilot studies in all four countries were used to test local understandings and, where necessary, adjustments were made. Standard training was given to interviewers, including training on World Health Organization (WHO) standards in the use of specialist equipment for taking measurements of height and weight. All interviewers were fluent in local languages. The CHAMPSEA research team was sensitive to ethical issues that might arise during the survey, especially in the interviews conducted with the index children. The purpose of the survey was explained to potential participants and their anonymity assured. It was made clear that participation was

voluntary, there would be no repercussions from non-participation, and participants could refuse to answer particular questions or withdraw from the interview at any time without giving a reason. Verbal informed consent was obtained from all adults prior to interview, and verbal assent from index children. Every effort was made to put children at ease and to explain that this was not a test and that there were no right or wrong answers. Children were interviewed within sight of an adult in their household but, where possible, out of earshot. Interviews were conducted by two interviewers in the participants' own homes. Ethics approval for the CHAMPSEA Project was obtained from institutions in all participating countries.¹

Data and Measures

The data collected are wide-ranging and cover migration histories as well as many aspects of child health and well-being, including measures that are well-established and validated in the literature. The articles in this special issue examine different health and well-being outcomes but also use some of the same variables in their analyses. To avoid repetition, we therefore outline the most important of these here.

1. *Migrant-carer status*² is a derived variable that divides the sample into four categories according to both the migration status of the household and, for transnational households, who is the migrant and who is the principal caregiver for the index child. The four categories are: non-migrant; father-migrant/mother-carer; mother-migrant/father-carer; parent(s)-migrant/other-carer. This is our main migration variable and is usually preferred in CHAMPSEA analyses because it summarizes the situation of the child without introducing problems of collinearity.
2. *Child psychological difficulties* is measured using data from the Strengths and Difficulties Questionnaire (SDQ), developed by Robert Goodman (Goodman, 1997) and validated as a screening tool for child mental health problems in Asian settings. The 25 items of the SDQ were completed by the index child's principal caregiver

¹ Ethics approval was given by the National University of Singapore, University of St. Andrews, Scalabrini Migration Center (Philippines), Center for Population and Policy Studies, Gadjah Mada University (Indonesia), Institute for Population and Social Research, Mahidol University (Thailand), and Asia-Pacific Economic Center (Vietnam).

² We refer to the person caring for the index child as the principal (or primary) 'carer,' following UK English. This term has the same meaning as 'caregiver' and the articles use the two descriptors interchangeably.

and provide scores for five subscales and a summary scale. The Total Difficulties Score sums four of the five subscales (emotional symptoms, conduct problems, hyperactivity/inattention, and peer relationship problems). Possible values range from 0 to 40, and a score of 17 or above is taken as identifying likely cases of children with psychological difficulties.

3. *Family functioning* is measured using the Family APGAR, a rapid screening tool widely employed in clinical practice and research with families. Children aged 9, 10 and 11 completed the questionnaire covering five parameters of family functioning: Adaptability, Partnership, Growth, Affection and Resolve (APGAR). All items were measured on a 5-point scale (0 never, 1 hardly ever, 2 some of the time, 3 almost always, 4 always) and scored by summing the values for the five items. The composite score ranges from 0 to 20 and can be used as a continuous variable, with higher scores signifying greater satisfaction with family functioning, or as a binary variable indicating either good or poor family functioning, depending on the cut-off used. Some of the papers in this volume identify good family functioning as a score of 13 and above.
4. *Carer mental health* is assessed using the WHO recommended Self-Reporting Questionnaire (SRQ), a screening tool for psychiatric disturbance recommended for use in low income countries and now validated in many cultural contexts. All principal carers of the index children were asked 20 yes/no questions relating to symptoms of depression and anxiety in the previous 30 days. 'Yes' answers were summed to provide a score, and scores of 8 or more are regarded as indicating probable cases of poor mental health.
5. Anthropometric measurements (height and weight) were taken for all index children, together with exact age. These data allow the calculation of three measures of child undernutrition (wasting, stunting and underweight). The measure used in several articles in this volume is *Child stunting*, or low height-for-age. Height-for-age z-scores (HAZ) were calculated using the WHO Anthro software, and stunting is defined by a HAZ score more than two standard deviations below the median of the 2006 WHO Child Growth Standards.
6. *Household wealth* is measured using a wealth index, based on the methodology developed by the Young Lives study for use in low

and medium income countries (*see* www.younglives.org.uk). The index combines data on housing quality (e.g., wall and roof material), consumer durables (e.g., television; working motor bike/scooter) and services (e.g., electricity; piped drinking water) to derive an overall score. Quintiles are used to classify households into low (first and second quintile), medium (third and fourth quintile) and high (fifth quintile) wealth categories. The classification can be derived for a single country, showing relative wealth within that setting, or for several countries together, showing relative wealth within the combined group. Care must be taken in interpreting the single-country measure when comparing across countries, as the measure of 'high wealth' in Vietnam is not directly comparable to 'high wealth' in the Philippines, for example.

Analytical Methods

The analyses in this special issue use quantitative analytical methods to compare outcomes for children living in different types of transnational household with outcomes for a 'control group,' namely children living with both parents in non-migrant households in the same communities. Methods of multivariate regression analysis are used, as appropriate to the cross-sectional nature of the CHAMPSEA data. These and other statistical tests are described in the individual articles.

Introducing the Articles

The special issue presents five articles and a research note, each investigating a different aspect of parental migration and its impact on children left behind. Together, they provide a glimpse of the richness of the CHAMPSEA dataset. The analyses exploit only part of that dataset, however, as they utilize the survey data for primary school-aged children rather than all index children, and concentrate on measurable health and well-being outcomes. The overarching question is: What difference does parental migration make?

In the first article, "Does Having a Migrant Parent Reduce the Risk of Undernutrition for Children Who Stay Behind in South-East Asia?," Elspeth Graham and Lucy P. Jordan investigate the impact of parental migration on child nutrition. They use a standard measure of nutritional status that identifies low height-for-age (i.e., stunting) as their outcome of interest. Despite the extensive literature on child stunting and attempts to reduce its high prevalence in Africa and Asia to meet the Millennium Development Goals, there have been no previous studies of the potential impact of parental migration on the likelihood of a child being, or remaining, stunted.

The article examines child stunting in the Philippines and Vietnam, comparing children in different types of transnational household with children in the same communities living with both parents. The findings from a series of multivariate models are interesting because they challenge any general assumption that left-behind children have better nutrition than their peers due to the higher earnings of their parents working abroad. A more nuanced picture emerges in which a reduced risk of stunting is apparent only for children of migrant fathers left in the care of their mothers in the Philippines. Having a migrant father seems to have no effect in Vietnam. In neither country is having a migrant mother associated with a lower risk of stunting compared with children in non-migrant households, but nor is the risk higher. Thus, there is no evidence in this analysis to support popular notions of a 'crisis of care' when mothers seek work in another country.

The great majority of migrant parents send money home to support family members who stay behind. Some transnational households in the CHAMPSEA Project used these remittances to buy everyday necessities, including food. Many parents, however, directed these overseas earnings towards improving the longer-term life chances for their children by investing in their schooling. Indeed the follow-up qualitative interviews with the children revealed that education was one of the main topics of conversation in communications with their migrant parents. In transnational households, therefore, particular emphasis may be placed on doing well at school, but how much difference does it make? The second article, "Leaving a Legacy: Parental Migration and School Outcomes among Young Children in the Philippines" by Maruja M.B. Asis and Cecilia Ruiz-Marave, examines the evidence for the Philippines. The article adds to the limited literature on schooling and left-behind children by investigating school pacing, or progression, and school achievement. The findings suggest that having a migrant parent is an advantage for some children when it comes to both school pacing and school achievement. In particular, children of migrant fathers looked after by their mothers are more likely to be at pace or advanced and to have higher school achievement compared to children in non-migrant households. There is no evidence of any disadvantage for the children of migrant mothers looked after by their fathers (or other carers) when compared to their peers living with both parents. Thus, although only some children appear to benefit from having a migrant parent, the concern that parental absence due to migration can negatively affect the school performance of children is not supported by this study.

The theme of resilience, as opposed to risk, provides a focus for the third article on Thailand, "The Subjective Well-Being of Children in Transnational and Non-migrant Households: Evidence from Thailand" by Aree Jampaklay and Patama Vapattanawong. Children's subjective well-being

is investigated to discover which groups of children regard themselves as 'doing well,' defined in this article with respect to how happy children say they are and how much they enjoy school. Contrary to the expectations of some, the findings show that children living in transnational households are more likely to be resilient on this measure than children living in non-migrant households. In the Thai case, however, the comparison is between left-behind children of migrant fathers and children in non-migrant households because so few mothers migrate leaving their children behind. Nevertheless, it is children living with both parents who are found to be relatively disadvantaged and those living in transnational households who appear to be more resilient.

While having a migrant parent may be an advantage in some respects, an important worry associated with the 'crisis of care' in the popular imagination is that children living in transnational households may lack guidance and may thus be more likely to be involved in risky health-related behaviors such as drinking and smoking. The fourth article, "Alcohol Use among Very Early Adolescents in Vietnam: What Difference Does Parental Migration Make?" by Lucy P. Jordan, Elspeth Graham and Duc Vinh Nguyen and the research note at the end of the collection, "Tobacco Use and Exposure among Children in Migrant and Non-migrant Households in Java, Indonesia," by Sukamdi and Anna Marie Wattie, investigate the associations between parental migration and, respectively, alcohol use among Vietnamese children and tobacco use among Indonesian children. Even at 9, 10 and 11 years old, there were a number of children in the CHAMPSEA samples who admitted that they had drunk alcohol or smoked tobacco, with prevalence rates of 16.2 percent for alcohol use in Vietnam and 8.6 percent for tobacco use in Indonesia. In both studies, boys were found to be significantly more likely to participate in these behaviors than girls, and the factor most strongly associated with the behaviors was whether friends used alcohol (Vietnam) or tobacco (Indonesia). The health-related behaviors of other family members had little or no impact, and no evidence was found to support the idea that children of migrant parents are more at risk than children in non-migrant households. Indeed, the study in Vietnam reported significantly lower odds of alcohol use among children in transnational households left in the care of their father or someone other than a parent, which in most cases would be a grandparent.

The special issue is rounded off with an article, "Securing a Better Living Environment for Left-Behind Children: Implications and Challenges for Policies" by Theodora Lam, Miriam Ee, Hoang Lan Anh and Brenda S.A. Yeoh, that considers the challenges and policy implications of the CHAMPSEA study. While left-behind children show considerable resilience, they and their families are also facing a number of risks. Areas of concern for

migration and development policy include the provision of better support for left-behind caregivers themselves as they substitute for absent migrants in providing care work, improvements to communication infrastructure to help migrants and their families maintain their relationships across transnational spaces, and assistance to migrant families under considerable stress stemming from the cycle of debts resulting from debt-financed migration. In view of these concerns, the article urges governments to collaborate with civil society and businesses to create effective legal and institutional frameworks as well as suitable supporting mechanisms for the growing population of left-behind families and their children. These measures are all the more urgent given the current thinking that migration can be part of a sustainable development strategy to ensure upward socio-economic mobility for Southeast Asian families.

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Does Having a Migrant Parent Reduce the Risk of Undernutrition for Children Who Stay Behind in South-East Asia?*

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Many parents from South-East Asia who go overseas to work are motivated by a desire to secure a better future for their children, yet the health consequences for children who stay behind are poorly understood. This study is the first cross-country comparison to explore the relationships between parental migration and the risk of undernutrition (stunting) for primary school-aged children. The analysis uses data from the CHAMPSEA Project for children aged 9 to 11 years in the Philippines (N = 480) and Vietnam (N = 482). A series of logistic regression models compares outcomes for children living in transnational households and children living with both parents in non-migrant households in the same communities.

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We find no general advantage of having a migrant parent. Rather there is a reduced risk of stunting only for some left-behind children in the Philippines, whereas having a caregiver with low educational attainment is a major risk factor for all children. The findings point to a complex set of relationships between parental migration and child nutrition, possibly reflecting differential opportunities for accumulating household wealth through overseas earnings. Moreover, differences between the two countries caution against generalizing across national or cultural groups. We conclude by considering the implications of the findings for theories of transnationalism and for the UN Millennium Development Goal of reducing childhood undernutrition.

Introduction

The increase in overseas labor migration from many countries in South-East Asia over the last few decades has seen a growth in the number of transnational households with members living in more than one country. The transnational household has thus become the site of livelihood strategies and social practices negotiated across distance, and the lived reality for millions of South-East Asians. Although many studies have examined different aspects of transnationalism, the health and well-being consequences of living in a transnational household for children who stay behind when one, or both, of their parents migrate have been relatively neglected. On the one hand, we might expect the absence of a parent, especially perhaps a mother, to impact adversely on the quality of childcare, love and attention that the child receives (Skrbiš, 2008). On the other hand, the great majority of migrant parents will send substantial sums of money in remittances to close family members they leave behind. Parents often emphasize providing for their children and giving them better opportunities in the future when explaining their motivations for working overseas (Parreñas, 2001). The impacts of parental migration on children's health and well-being may therefore be the outcome of a complex interplay of risk and resilience (Graham et al., 2012). Increased wealth in transnational households will only serve to protect child health if it is not outweighed by any negative effects of parental absence, yet few systematic studies to date have recognized this complexity or compared the implications of parental absence overseas for children in different countries. Anecdotal evidence may highlight important concerns but it does not provide a sound evidence base for livelihood decisions at the household level or government policy at the national scale. With many millions of children in the global South now growing up in transnational households, there is an urgent need to improve understanding. The main aim of our project on Child Health and Migrant Parents in South-East Asia (CHAMPSEA) is to contribute to this research agenda.

In this paper, we investigate the impact of parental migration on one of the most basic requirement for child health – adequate nutrition. We ask whether having a migrant parent is associated with a reduced risk of undernutrition for children who stay behind. We examine outcomes for children aged 9, 10, and 11 years (i.e., children in middle childhood) living in transnational households in two South-East Asian countries. Undernutrition in this age group is less often studied compared with the extensive literature on under five-year-olds, possibly because of the complexities involved in the longer time period during which insults to nutritional status can occur. However, a few studies have examined undernutrition among school children in low- and middle-income countries such as India (von Laer Tschudin et al., 2009), Nigeria (Senbanjo et al., 2011), Iraq (Al-Saffar, 2009) and Iran (Esfarjani et al., 2013). Moreover, understanding risk factors for undernutrition among school-aged children is important because it holds potential policy implications. For example, Senbanjo et al. (2011) concluded their study of stunted growth among school children and adolescents in Southwest Nigeria by advocating the provision of free school-meals in public schools.

This study compares the nutritional status of children in transnational households with outcomes for children of the same ages living with both parents in the same communities. The comparison provides some insight into the counter-factual of what might have happened to these children had their mother or father not migrated. We also consider selection into migration both in modelling the outcomes and in the interpretation of the results, as this factor is likely to introduce bias into the comparison. In addition to providing new evidence on the risks and benefits of parental migration as a livelihood strategy, the study informs theories of transnationalism by extending understanding of ‘linked lives’ to incorporate the impact of micro-scale transnational practices on non-migrant family members.

We focus on two somewhat different sending countries from the CHAMPSEA Project – the Philippines and Vietnam. The Philippines has been described as ‘the prototype of a labor-exporting nation’ (Semyonov and Gordodzeisky, 2005:47) and, over the past four decades, its economy has seen an increasing dependence on the remittances sent home by its overseas foreign workers. It is also the country that has featured most often in previous studies of transnational migration in the region. Vietnam, on the other hand, is a relative newcomer to international circuits of labor within the global economy. While its overseas workforce has been growing since the socio-economic reforms of Doi Moi in the mid-1980s, this phenomenon has drawn relatively little research attention. The comparison is therefore of interest not only for what it tells us about risk and resilience among children who stay behind, but also as an indication of whether or not the

experiences of Filipino transnational households are shared by other, less studied, South-East Asian countries.

Labor migration from the two countries, though different in scale, does share some common features. Most pertinent here is the substantial number of parents who now take up temporary work contracts overseas and leave their children behind. Both countries have also experienced a rise in demand for female labor, which has seen an increasing feminization of these labor flows (Hugo, 2005) and thus an increase in the number of mothers who migrate and leave children behind. Moreover, in both the Philippines and Vietnam, child undernutrition remains a serious public health problem despite recent improvements in nutritional status. One common measure of undernutrition is stunting, and, in the period 2003-2008, both countries were among the top 15 in the world with the largest number of children under five years old who were moderately or severely stunted, with stunting prevalence rates of between 34 and 37 percent (UNICEF, 2009).

Several recent studies have examined child nutrition in these countries but there have been very few studies that explicitly examine child nutrition in relation to parental migration overseas. Our aim is to address this knowledge gap using survey data collected in the Philippines and Vietnam in 2008. The lack of previous work on the relationship between child nutrition and parental migration presents particular challenges as there are no extant theoretical frameworks to guide the analysis. This paper is thus exploratory and takes one measure of nutritional status, namely child stunting (low height-for-age), as the outcome of interest. There are four main sections. First, the literature on child nutrition is used to identify possible determinants of nutritional status before considering how parental migration might be expected to influence child stunting. Second, the CHAMPSEA dataset is introduced and the analytical strategy is described. Third, the findings from a series of multivariate models predicting child stunting are reported. Finally, the major relationships between stunting and a series of independent variables, including parental absence overseas, are discussed before conclusions are drawn about future research directions, and the theoretical and policy implications of the findings.

Determinants of Child Stunting

Anthropometric measurements of height and weight, along with data on age and sex, allow the calculation of three standard indicators of children's nutritional status (stunting, wasting and underweight), each indicative of different aspects of undernutrition. We selected stunting as the outcome of interest here because it signifies the cumulative or long-term consequences of chronic malnutrition on physical growth, and because "child height

captures the effects of a broad range of economic and social influences on health" (Lutter et al., 2011:23). As Senbajo et al. (2011:364) remark, stunting "reliably gives a picture of the past nutritional history and the prevailing environmental and socioeconomic circumstances" of the child.

Anthropometric studies of stunting have examined the prevalence, causes and implications of stunting in infancy and childhood, as well as the effects of feeding programs and other interventions. Stunting is an important indicator of severe malnutrition, and WHO has set a target of reducing the prevalence of stunting to under 20 percent in all countries by the year 2020. Globally, it has been estimated that some 200 million children under the age of five are stunted and that 90 percent of the developing world's stunted children live in Asia and Africa (UNICEF, 2009). Poor nutrition in infancy and childhood is not only detrimental to long-term health and life expectancy but has also been shown to be associated with deficits in cognitive development and schooling outcomes (Mendez and Adair, 1999; Berkman et al., 2002; Daniels and Adair, 2004; Victora et al., 2008; Duc, 2009), as well as being implicated in the intergenerational transmission of socio-economic status (Carvalho, 2012). Progress is thus being made in knowledge of the extent and implications of childhood nutritional deficits but the social determinants of stunting are less well understood. In South-East Asia, studies from several countries have examined the association between diet and height, the severity and timing of stunting, catch-up growth, and the associations between undernutrition and various other factors such as child gender, household socio-economic status, working mothers, childcare practices, private schooling and community characteristics (UNICEF, 2008; Crookston et al., 2010; Petrou and Kupek, 2010; Rahmawati et al., 2010). One early study of Filipino children identified age-specific factors related to new cases of stunting in children under two years of age (Adair and Guilkey, 1997). The possibility of moving out of, as well as into, stunting during childhood is of particular interest as it suggests that standards of nutrition continue to be important throughout childhood.

A large number of studies have identified poverty as the main underlying determinant of stunting in young children, with the poorest countries generally having the highest incidence of stunting (Eckhardt et al., 2005; Black et al., 2008; Paraje, 2009; Petrou and Kupek, 2010). Within a country, the poorest groups also tend to have the highest incidence of chronic undernutrition, although the pattern of economic risk may vary between those living in urban and rural areas. For example, Menon et al. (2000) found a significantly higher incidence of stunting among low socio-economic status (SES) groups compared with high SES groups across a number of countries in Asia, Africa and Latin America, and lower risks of stunting in urban areas compared with rural areas associated with spatial disparities

in wealth in several countries. At the household level, poorer families are likely to suffer from greater food insecurity, including reduced access to nutritious food (Pasricha and Biggs, 2010). Urban children may have an advantage in this respect, although risks for stunting may also change with the age of the child. In their study of undernutrition among Filipino children under 30 months in Metro Cebu, Ricci and Becker (1996) reported that risk factors for stunting varied across age and place of residence, such that "household socioeconomic status influenced the risk of stunting earlier in rural than in urban barangays" (Ricci and Becker, 1996:972). For older children, Florentino, Villaveja, and Lana (2002) found other measures of socio-economic status, including type of school (private or public), were associated with nutritional outcomes. Since parental migration is often, though not always, associated with increased incomes, we might expect children in transnational households to be at lower risk of stunting, or remaining stunted, than their peers in non-migrant households.

Although poverty is a major challenge to food security, wealth differentials do not explain all variations in stunting. In Vietnam in the 1990s, household incomes improved rapidly and there was a dramatic decline of almost a third in the incidence of stunting among 0-60 months old children, from 50.2 percent in 1993 to 34.6 percent in 1998 (Glewwe et al., 2002). This improvement has continued since 2000, although at a slower pace (Khan et al., 2007). However, Glewwe et al. (2002) cautioned against assuming that economic improvement is the main determinant of improved nutrition, as their study found that the impact of increased household expenditure on improvements in children's nutrition was not very large. Other studies, also using data from the Vietnam Living Standards Surveys but incorporating a larger age range of children, offer different conclusions. For children under 10 years of age, O'Donnell, Nicholas, and Van Doorslaer (2009), for example, found much larger effects of improvements in living standards on reductions in child malnutrition. While poverty has been seen as the main cause of stunting in both Vietnam (Khan et al., 2007; O'Donnell et al., 2009) and the Philippines (Mendez and Adair, 1999; Florentino et al., 2002), poverty is a determinant that is associated with a number of other factors.

The conceptual framework developed by UNICEF (1990) has been used to guide analysis in many studies of child nutrition both globally and in South-East Asia (Milman et al., 2005; Pasricha and Biggs, 2010). This framework identifies dietary intake and health as the immediate determinants of children's nutritional status, with dietary intake being influenced by both food security and quality of childcare, and health being influenced by both quality of childcare and health services/environment. While food security is directly influenced by household wealth, quality of care reflects a number of underlying factors including caregiver education and health.

Household-level studies have found mother's education to be associated with children's nutritional status in many developing countries (Desai and Alva, 1998; Waters et al., 2004; Boyle et al., 2006; Miller and Rodgers, 2009). Ricci and Becker (1996) reported that lower levels of maternal education were a significant risk factor for stunting among children aged 12 to 24 months in Metro Cebu in the Philippines, and Semba et al. (2008) found that both maternal and paternal education were strong predictors of child stunting in Indonesia and Bangladesh. This suggests that, in the context of parental migration, the quality of child nutrition may be influenced by the education of the principal caregiver.

Parental Migration and Stunting in Children

It is well-established that stunting can impede child development and be detrimental to a child's long-term life chances (UNICEF, 2009). When parents migrate to another country for work leaving children behind, one major motivation is to improve the long-term life chances of their children, often through investments in schooling (ECMI/AOS-Manila et al., 2004). However, it is also possible that increases in household wealth associated with remittances from overseas employment lead to an improvement in children's nutritional status by strengthening food security and, perhaps, allowing the purchase of more nutritional foods. Although most stunting occurs before a child reaches the age of 36 months and most infants who are stunted remain stunted as adults, there may be multiple pathways into, and out of, stunting. A recent study of infants in South Africa and the Philippines suggested that the risk of undernutrition increases through the weaning process as more infants were stunted at two years of age, compared with at one year of age (Jones et al., 2008). Nevertheless, some children later experience sufficient catch-up growth to recover from stunting, while others become stunted after infancy. This indicates that improved nutrition, even after the age of three years, could reduce the overall prevalence of stunting observed later in childhood. One study using longitudinal data for over 2000 children in the Philippines found around a third of the children stunted at age two were no longer stunted at age 12 (Adair, 1999). It is thus possible that increases in household wealth from the overseas earnings of migrant parents during childhood may serve to promote catch-up growth and significantly reduce stunting prevalence by age 12, with adequate nutrition either moving children out of stunting or ensuring that they do not become stunted during childhood.

In contrast to those who move out of stunting, those children who become stunted after infancy may have experienced a number of insults during childhood that negatively affected their growth. Reductions in nu-

tritional intake provoked by increases in poverty is one plausible pathway, but there are others. Non-dietary influences, including infection or illness and childcare practices or deficits in parental attention, have also been identified as possible causes of poor nutritional status (Semba et al., 2008; UNICEF, 2008). The latter is of particular interest as children left behind by migrant mothers may be more vulnerable to negative effects if a substitute caregiver fails to provide adequate care. Further, the mental health of mothers has also been shown to influence infant growth (Stewart, 2007). In Vietnam, Harpham et al. (2005) found a positive association between maternal common mental disorders (CMD) and having a stunted infant (6 to 18 months), such that the odds of an anxious and depressed mother having a stunted child are around 25 percent greater compared with a mother who is not depressed and anxious; and, in a case-control study of maternal CMD and underweight in children under five years old in Brazil, Santos et al. (2010) found that maternal CMD doubled the risk of moderate or severe malnutrition in children. More generally, if the quality of care is inadequate or declines for any reason, the child is likely to be at greater risk of undernutrition.

The anthropometric literature on child stunting is silent on the impacts of parental migration, but it does allow us to hypothesize that impacts could be both positive and negative. Children in transnational households may be protected by increases in wealth due to overseas earnings on the one hand, but made more vulnerable on the other hand, if the quality of the childcare they receive declines or is inadequate. In both the Philippines and Vietnam, the majority of children are cared for by their mother. In the CHAMPSEA survey, for example, 91 percent of Filipino children and 71 percent of Vietnamese children aged 9-11 years living with both parents were cared for by their mothers. When a mother goes abroad to work, a substitute carer is therefore required. This might be the father, a grandparent or other relative, or even a paid worker. In these circumstances, it is possible that children are more at risk of poor quality care and thus of stunting. In the following analysis, we use individual and household-level data from the CHAMPSEA Project to investigate the hypothesis that having a migrant parent is associated with (a) a migration effect [expectation of the beneficial influence of overseas earnings on child nutrition]; and (b) a carer effect [expectation of the detrimental impact of a care deficit on child growth] for stunting among children in middle childhood in the Philippines and Vietnam.

Data and Methods

Study Sample

The present study analyzes data from the CHAMPSEA Project on children aged 9-11 years. Anthropometric measures of height and weight were taken for all index children and structured interviews were conducted both with the children themselves and with other members of their households. In each country, households were recruited from a number of communities within two provinces identified as having high rates of overseas migration. To facilitate comparison between children living in transnational and non-migrant households, only those households where the parents of the index child were currently married were recruited into the study. The flexible quota sampling method ensured that transnational households comprised at least 50 percent of the sample and that equal numbers of boys and girls were drawn from non-migrant and transnational households. Only one qualifying child from each household was identified as the index child. All participants were interviewed in local languages using standardized questionnaires tested in a pilot survey and adapted for local idioms. Ethics approval for the study was granted by universities and research institutions in the UK, Singapore and each of the study countries. The resultant samples are not nationally representative as they over-sample the children and households of international labor migrants. There were no available national estimates for the numbers of Filipino or Vietnamese parents working overseas who had left school-aged children behind to allow correction for oversampling or for the non-metropolitan bias of the samples. Nevertheless, a rigorous sampling strategy¹ produced a valuable dataset which enables us to investigate associations between the migration status of a child's household, a range of other variables and the likelihood of the child being stunted.

The analyses focus on two of the CHAMPSEA study countries. Data were collected from communities in the provinces of Laguna and Bulacan in the Philippines and Thai Binh and Hai Duong in Vietnam during 2008. The analytical samples include children living with both parents in non-migrant households and children in transnational households where one parent (mother or father) was an international labor migrant. Cases of children living in transnational households where both parents were international migrants were dropped because of small numbers (n=17, 3.4 percent of the

¹ For a more detailed discussion of the sampling strategy see the Editorial Introduction to this volume.

TABLE 1
COMPOSITION OF ANALYTICAL SAMPLES
BY HOUSEHOLD MIGRATION STATUS AND COUNTRY

Migration status of household	Number of children aged 9, 10 & 11	
	Philippines	Vietnam
Non-migrant	243	227
Transnational: Father migrant	171	86
Transnational: Mother migrant	66	169
Total	480	482

Philippines sample; n=24, 4.7 percent of the Vietnam sample), as were a very small number of cases with incomplete data (n=3 for the Philippines; n=5 for the Vietnam). Table 1 shows the distribution of cases in the analytical sample by household migration status and country.

Measures

The main outcome measure of interest is child stunting. Anthropometric measures of height were taken for each index child by trained staff following WHO guidelines. Stunting is defined as the incidence of child height-for-age z-scores (HAZ) more than two standard deviations below the median of the 2006 WHO Child Growth Standards. HAZ scores were calculated using the WHO Anthro software.

To test our hypothesis of a migration effect and a carer effect, a composite categorical measure of household migration status and child carer status was derived. Four categories were defined: (1) Non-migrant households (both parents usually resident with majority mother carer), which was used as the reference category; and three types of transnational household - (2) father-migrant/mother-carer; (3) mother-migrant/father-carer; (4) parent-migrant/other-carer (either mother or father migrant with non-parental carer). This enabled us to gain a more detailed insight into the relationships between parental migration and child stunting, according to which parent was absent and who was providing care for the index child, while avoiding problems of collinearity.

Potential confounders of any association between living in a transnational household and child stunting in middle childhood were identified from our review of the child nutrition literature. Child characteristics included were child age (in completed years), sex, and low birth weight (under 2,500 grams). Low birth weight is recognized as an important predictor of

stunting in early childhood and is included here to control for variations in fetal nutrition and growth. Further, it is likely that the incidence of low birth weight was higher in poorer households and this measure therefore also provides an additional control (along with father's education) for differences in socio-economic status at the time of the child's birth, which were not observed in the survey.

Data on child birth weight were collected from the child's principal carer in one of two ways. Where the precise birth weight was known, this was recorded in full. Where the precise weight was unknown, the carer was asked whether or not the child weighed less than 2.5 kilograms (5.5 pounds) at birth. For the children aged 9, 10, and 11 in the analytical sample, a little more than half (54 percent) of the principal caregivers were able to provide the precise weight measurement. The remainder responded to the second question and, given the potential unreliability of these responses, we conducted analyses both including and excluding such responses. The results were very similar overall, thus the models presented below include all reported cases of low birth weight.

Carer characteristics were included as indicators of the nature of the care the index child received. For children living in transnational households, the migration/carer status variable identified which parent or other carer had the main childcare responsibility. For children living with both parents, mother-child interaction was maintained on a daily basis and only 8.1 percent in the Philippines and 17.6 percent in Vietnam were mainly looked after by another carer. The majority of the other caregivers in these two-parent resident households were fathers (67 percent in the Philippines and 95 percent in Vietnam). In addition to distinguishing different groups according to who looked after the index child, carer educational attainment (upper secondary school or more, lower secondary, primary or less) was included as an important marker of childcare practices. This variable is indicative of completed years of schooling and, for adult carers, can be assumed to be relatively time invariant. Carer mental health (measured using the 20 item Self-Reporting Questionnaire (SRQ-20), with eight or more positive responses indicating a mental health problem and lower scores, the absence of such a problem) was examined but was not found to be significant as a predictor of stunting in middle childhood. This finding is not surprising as the SRQ score reflects the mental health status of the index child's principal carer at the time of interview and cannot be extrapolated across the child's lifetime. Therefore, the measure of carer's current mental health was not included in the final models.

Household characteristics were also considered as potential confounders. The presence of siblings could result in competition for resources. A variable was therefore included to indicate the number of younger siblings

an index child had, with values ranging from 0 to 5. The greater variability in this measure for Filipino children reflects the generally larger family sizes in the Philippines compared to Vietnam. In addition, the number of adults aged 15 and over in the household was included as the size of the household might have an impact on resources available for the child, although in this case adults could be expected to contribute to, as well as consume, household resources. We also considered the presence, or absence, of parents during the crucial years of infancy and early childhood by deriving two binary indicators of whether or not the mother, or the father, was an international migrant during the first 36 months of the index child's life. We investigated a more detailed variable measuring the duration of the mother's or father's absence in the first 36 months of the child's life, but small numbers² precluded the derivation of useful measures for migrant mothers in both countries and, additionally, for migrant fathers in Vietnam. We tested the duration variable for migrant fathers in the model for the Philippines (not shown) and found that it was not significant and did not improve the model fit. Hence, the models reported below use the binary variable indicating whether or not a mother, or father, was away in the first three years of their child's life.

Selection Issues

In order to take account of potentially unobserved characteristics influencing selection into migration (whereby, for example, parents in higher socio-economic status households were more likely to have chosen to work abroad) which might confound the comparison between index children in non-migrant and transnational households, we sought a measure that would capture the socio-economic status of the household prior to migration. In the absence of retrospective data on household income in the CHAMPSEA dataset, we examined two possible controls for selection. These were father's occupation at the time of the index child's birth and father's educational attainment, which has been used as an indicator of socio-economic status in other recent studies (Carvalho, 2012). In contrast to the educational measure, we found no significant difference between non-migrant and transnational households in father's occupation at the time of the index child's birth. We therefore included father's educational attainment as a surrogate for prior socio-economic status and a more robust control than occupation for selection into migration. Two categories of educational attainment were

² For Vietnam, only five mothers and four fathers were working abroad in the first 36 months of the index child's life. The comparable figures for the Philippines are 11 mothers and 79 fathers.

derived. Primary education or less was grouped with lower secondary education because of the small number of fathers who had not proceeded beyond primary school; likewise the small numbers with post-secondary school education were grouped with those who had completed secondary school. Since both categories therefore relate to school qualifications (upper secondary or more; lower secondary, primary or less), it is highly likely that these were obtained before the birth of the index child. Interestingly, fathers in all types of transnational households in the Philippines have, on average, significantly higher educational attainment than their counterparts in non-migrant households ($\chi^2 = 30.90$, $p < 0.001$). Although the opposite is observed in the case of the Vietnamese fathers, with a slightly higher percentage of those in non-migrant households having higher educational attainment, the difference is not statistically significant ($\chi^2 = 7.03$, $p < 0.1$).

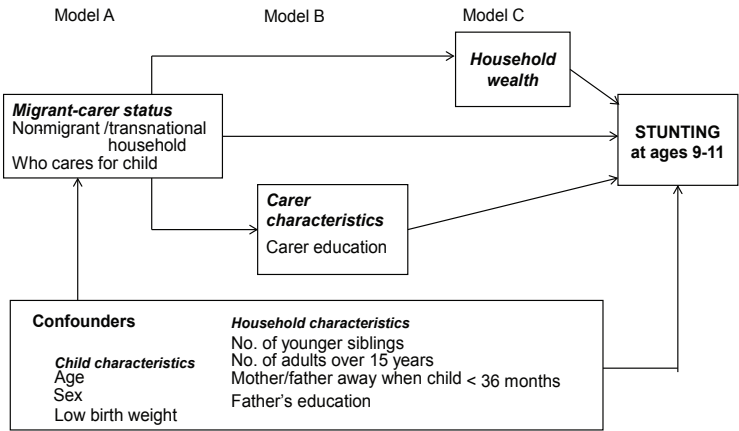
Current Socio-economic Status

The final variable included in the fully-adjusted model is a composite wealth index, based on the methodology by the Young Lives project (www.young-lives.org.uk). We include it as an indicator of the current socio-economic status of the household and its access to health-related resources. The index summarizes scores for housing quality, consumer durables and services including electricity, source of drinking water and sanitation. Scores within each country sample were divided into quintiles and then grouped into three categories of low (first and second quintile), medium (third and fourth quintile) and high (fifth quintile) wealth for the analysis, following Filmer and Pritchett (2001). It should be noted that the wealth index provides a measure of relative household wealth within a country sample. High wealth in the Philippines cannot therefore be equated with high wealth in Vietnam, where levels of wealth are lower overall. However, the advantage of this index over a measure of current income is that it is a marker of living conditions reflecting accumulated wealth over a period of time (including the impact of any remittances from overseas earnings), and can be compared across different households and communities.

Analytical Methods

To provide an overview of the anthropometric data, mean heights for boys and girls were compared with the WHO Child Growth Standards for each year of age, and separately for children living in non-migrant households and transnational households in (i) the Philippines, and (ii) Vietnam. The results were graphed to allow a visual comparison of differences between groups relative to growth standards.

FIGURE 1
CONCEPTUAL FRAMEWORK FOR THE ANALYSIS OF ASSOCIATIONS BETWEEN
PARENTAL MIGRATION AND CHILD STUNTING



A conceptual framework was then devised to guide the multivariate analysis (Figure 1). A series of three hierarchical logistic regression models was fitted to estimate the effects of living in different types of transnational households on the odds of an index child being stunted at ages 9-11. Separate models were fitted for Filipino and Vietnamese children. Groups of covariates were added to the model in sequence and the aim was to explore how each addition affected the relationship between living in a transnational household and child stunting. In particular, we expected to find an association between living in a transnational household and a reduced risk of child stunting (pointing to the positive impact of overseas earnings on nutrition), at least for children of migrant fathers. For children of migrant mothers, we expected a strengthening of this relationship once carer education was added to account for a possible care deficit. We also expected an attenuation of the main migration effects when the household wealth variable was added, indicating that any advantages of parental migration for child stunting are likely to operate mainly through the accumulation of wealth from overseas earnings. Model A (the base model) tested the relationship between migrant-carer status and child stunting accounting for child characteristics. Model B added carer education, household characteristics, father's education, and two binary variables indicating whether

or not mothers or fathers were absent working overseas during the first 36 months of the child's lifetime. The fully-adjusted model, Model C, then added the measure for relative household wealth.

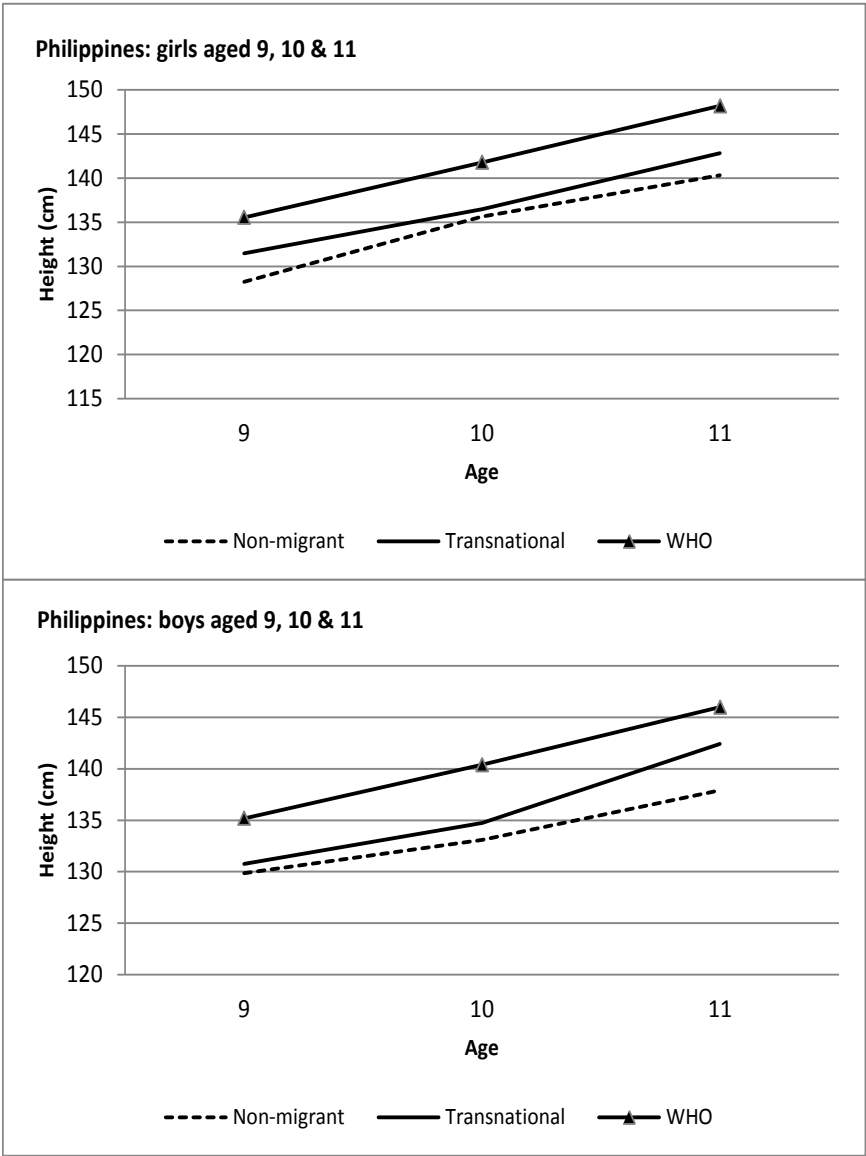
Results

The analysis of mean heights by sex and age in years shows that, on average, children in our samples were shorter than WHO reference standards, with Vietnamese children generally being shorter than Filipino children. Dividing the samples into two groups according to whether the children were living in non-migrant or transnational households reveals some differences between the mean heights of children in the two household types (Figures 2 and 3). Both boys and girls living in transnational households in the Philippines were, on average, taller than their peers in non-migrant households. This difference is observable in all three age categories, but tends to be small. For boys and girls in Vietnam, there is very little difference between those in non-migrant and transnational households, although 10-year-old girls in non-migrant households are actually taller, on average, than their counterparts in transnational households. To examine height differences in more detail, we turn to the measure of stunting (HAZ) that enables the identification of height-for-age significantly below the median WHO standard.

On this measure, the prevalence of stunting among children aged 9-11 in the samples is 16 percent for the Philippines and 17 percent for Vietnam. These proportions are somewhat lower than those reported elsewhere.³ If having a migrant parent does reduce the risk of stunting, the lower prevalence could be a reflection of the purposeful oversampling of transnational households in the CHAMPSEA Project. However, when stunting prevalence among children in non-migrant and transnational households is compared, differences between the two study countries become evident (Table 2). In Vietnam, there is little variation in the prevalence of stunting between the two household types, whereas there is a significant difference for the Philippine sample ($\chi^2 = 15.07$, $p < 0.001$). This suggests considerably more scope for a migration effect in the Philippines, and much less scope in Vietnam, other things being equal. By way of comparison, stunting prevalence is higher among young children (aged 3, 4 and 5) in the CHAMPSEA survey.

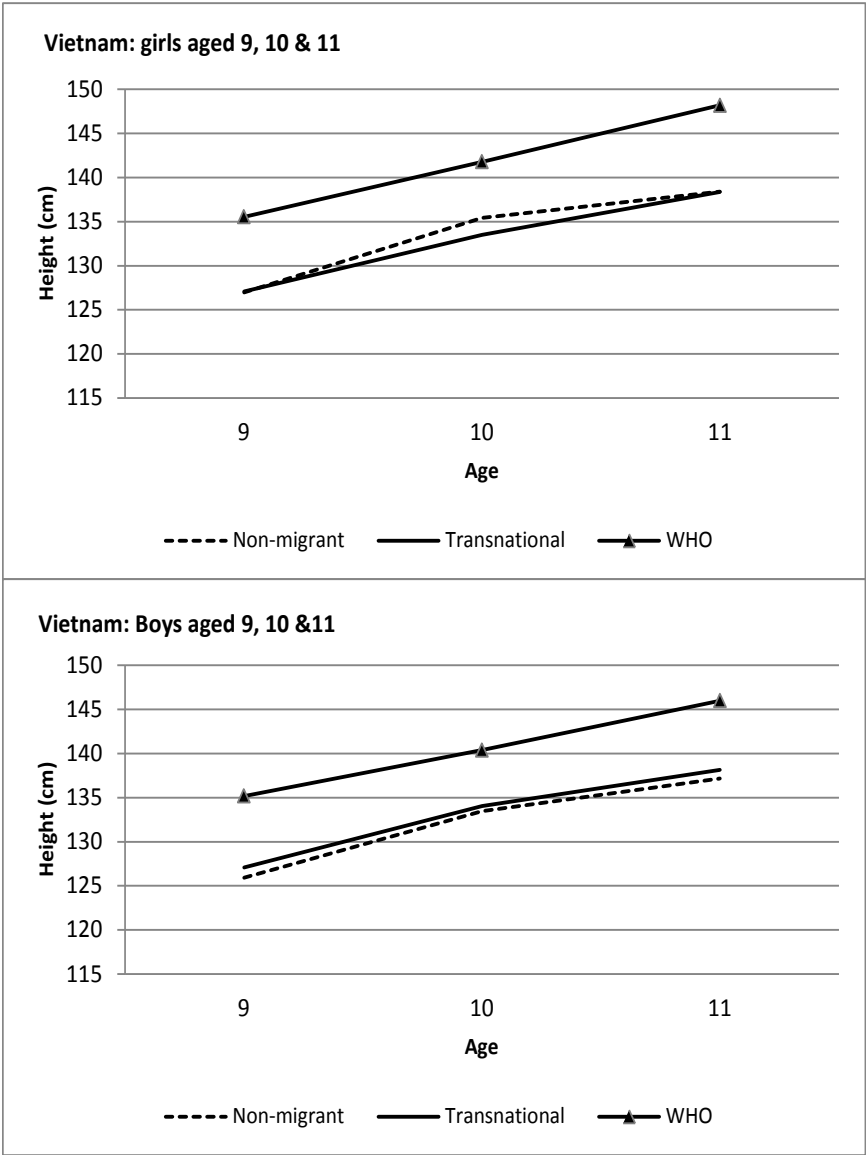
³ Estimates for strictly comparable age groups are not available. Petrou and Kupek (2010), for example, found a stunting prevalence rate of 23.6 percent for children aged 4.5 to 5.5 in Vietnam. And, while figures from the 7th National Nutrition Survey in the Philippines (Food and Nutrition Research Institute, 2008) indicate a national stunting prevalence of 33.1 percent for 6-10 year olds, lower rates of 23.0 percent and 27.6 percent were recorded for the two provinces from which the CHAMPSEA sample was drawn.

FIGURE 2
PHILIPPINES SAMPLE - MEAN HEIGHT OF GIRLS AND BOYS
COMPARED TO WHO-REFERENCE



WHO mean is for 6th month of given year

FIGURE 3
VIETNAM SAMPLE -MEAN HEIGHT OF GIRLS AND BOYS
COMPARED TO WHO-REFERENCE



WHO mean is for 6th month of given year

TABLE 2
PREVALENCE OF STUNTING AMONG CHILDREN AGED 9-11 YEARS
BY COUNTRY AND NON-MIGRANT VS. TRANSNATIONAL HOUSEHOLD

	Philippines		Vietnam	
	N	%	N	%
Non-migrant households	54	22.22	42	18.50
Transnational households	22	9.28	41	16.08
All households	76	15.83	83	17.22

Young Vietnamese children had the highest prevalence of stunting at 24.0 percent (Graham and Jordan, 2010), an almost identical prevalence rate to that found by Petrou and Kupek (2010) in their study of young Vietnamese children aged 4 to 5 years. Since the national prevalence of stunting in early childhood was higher still in both countries in the late 1990s when the 9, 10 and 11 year olds were infants, it is likely that some of the children in the current study have experienced catch-up growth during childhood.

Our question is whether 9, 10 and 11 year olds living in transnational households were at lower risk of being stunted at the time of interview compared to their peers in non-migrant households. Exploration of the bivariate relationship between household migration status (non-migrant vs. transnational) and child stunting showed a significant difference between the two groups in the Philippines, with children in non-migrant households being more than twice as likely to be stunted as children in transnational households (OR = 2.79, $p < 0.001$). However, no significant difference was found in the Vietnamese sample. This may be an indication of contrasting experiences of migration in the two countries, or it may reflect other confounders. We therefore fitted separate multivariate logit models for the Philippines and Vietnam, predicting stunting among children in middle childhood.

Multivariate Results

Once we account for selected confounders, the multivariate models predicting child stunting provide some evidence for possible migration effects, although these differ between the Philippines and Vietnam. In the base model, we entered the migrant-carer status of the child’s household, the sex and age (in completed years) of the child, and low birth weight (Tables 3 & 4, Model A). Low birth weight is confirmed as a risk factor for stunting in middle childhood in Vietnam; children of low weight at birth are two-and-a-half times more likely (OR = 2.49, $p < 0.05$) to be stunted around a

decade later compared to children who weighed at least 2,500 grams at birth. Further, Vietnamese girls are significantly more likely to be stunted than boys at this age ($OR = 1.67, p < 0.05$), possibly reflecting child feeding practices favoring males over females. Neither of these relationships is replicated for children in the Philippines.

Once child characteristics are accounted for, there is also evidence of an advantage for children living in transnational households, but this varies by country and according to which parent migrates and who is caring for the child. For the Philippines (Table 3, Model A), children of migrant fathers cared for by their mothers are significantly less likely to be stunted than children in non-migrant households, translating into a decreased likelihood of more than 60 percent ($OR = 0.33, p < 0.001$). The results in Table 3, Model A suggest a similar advantage for children of migrant mothers left in the care of their fathers, although the difference is significant only at the 90 percent level ($OR = 0.36, p < 0.1$). For Vietnam, the results (Table 4, Model A) also suggest an advantage for children of migrant mothers cared for by their fathers, although the higher odds ratio indicates a smaller advantage compared with the Philippines, and again the statistical significance is marginal ($OR = 0.58, p < 0.1$). Notably, there is no evidence that Vietnamese children of migrant fathers cared for by their mothers enjoy any advantage relative to their peers in non-migrant households, unlike their Filipino counterparts. The subsequent models account for additional confounders to investigate the stability of these findings.

After the inclusion of carer education, household characteristics, father's education (controlling for selection into migration) and the absence of mothers and fathers during the first 36 months of the child's life, migration/carers status remains a significant predictor of stunting in the Philippines but only for children of father migrants left in the care of their mothers. Further, the relative advantage has also been reduced to just over 50 percent ($OR = 0.47, p < 0.1$). However, the marginally significant associations between mother-migrant/father-carer and stunting in the base models for both Filipino and Vietnamese children are no longer significant once other variables are entered in the model. This suggests that the lower likelihood of stunting among children of migrant mothers left in the care of their fathers may be related to differences in the household-level characteristics of transnational and non-migrant households rather than to maternal migration per se.

There is also some evidence for a carer effect, although its association with migration is more difficult to discern (Tables 3 and 4, Model B). In both countries, carer educational attainment is significantly associated with child stunting. Filipino children whose carer has only primary education or less are over twice ($OR = 2.29, p < 0.01$) as likely to be stunted compared with those whose carer has upper secondary or post-secondary education.

TABLE 3
MULTIVARIATE LOGIT MODELS PREDICTING STUNTING IN CHILDREN
AGED 9, 10 & 11 YEARS IN THE PHILIPPINES

	n=480								
	Model A			Model B			Model C		
	OR	95% CI		OR	95% CI		OR	95% CI	
Migrant carer-status									
Non-migrant	1.00			1.00			1.00		
Father-migrant/ mother-carer	0.33 ***	0.17 0.61		0.47^	0.20 1.10		0.59	0.24 1.46	
Mother-migrant/ father-carer	0.36 ^	0.12 1.07		0.43	0.07 2.49		0.66	0.10 4.52	
Parent-migrant/ other-carer	0.41	0.14 1.22		0.34	0.07 1.72		0.55	0.10 3.17	
Child characteristics									
Male	1.00			1.00			1.00		
Female	1.17	0.71 1.93		1.19	0.70 2.01		1.19	0.70 2.02	
9 years	1.00			1.00			1.00		
10 years	0.87	0.48 1.57		0.77	0.42 1.43		0.75	0.41 1.40	
11 years	1.47	0.78 2.76		1.26	0.65 2.46		1.21	0.62 2.37	
Not low birth weight	1.00			1.00			1.00		
Low birth weight	1.09	0.40 3.01		1.12	0.39 3.20		1.09	0.38 3.14	
Carer education									
Upper secondary or more				1.00			1.00		
Lower secondary				1.03	0.27 3.98		0.91	0.23 3.57	
Primary or less				2.29**	1.23 4.24		2.05 *	1.10 3.81	
Household characteristics									
Number of younger siblings				1.21	0.95 1.54		0.91	0.52 1.59	
Number of adults				0.85	0.68 1.07		0.85	0.68 1.07	
Father's education									
Upper secondary or more				1.00			1.00		
Lower secondary/ primary or less				2.16*	1.19 3.91		1.71^	0.92 3.19	
Parental absence 1st 36 mos. of child's life									
Mother not away				1.00			1.00		
Mother away				1.03	0.22 4.88		1.24	0.23 6.76	
Father not away				1.00			1.00		
Father away				1.27	0.50 3.22		1.34	0.51 3.51	
Household wealth									
High							1.00		
Medium							1.64	0.52 5.10	
Low							3.04^	0.96 9.66	
Log likelihood	-200.23428			-186.61321			-183.80224		

***p<0.001 **p<0.01 *p<0.05 ^p<0.1

TABLE 4
MULTIVARIATE LOGIT MODELS PREDICTING STUNTING IN CHILDREN
AGED 9, 10 & 11 YEARS IN VIETNAM

	n=482								
	Model A			Model B			Model C		
	OR	95% CI		OR	95% CI		OR	95% CI	
Migrant-carer status									
<i>Non-migrant</i>	1.00			1.00			1.00		
Father-migrant/ mother-carer	0.94	0.47 1.85		1.12	0.37 3.38		1.10	0.37 3.31	
Mother-migrant/ father-carer	0.58	0.31 1.09		0.82	0.24 2.77		0.88	0.25 3.03	
Parent-migrant/ other-carer	1.08	0.50 2.35		1.20	0.36 4.02		1.17	0.34 3.98	
Child characteristics									
<i>Male</i>	1.00			1.00			1.00		
<i>Female</i>	1.67 ^	1.01 2.75		1.66^	0.99 2.79		1.68^	1.00 2.82	
<i>9 years</i>	1.00			1.00			1.00		
<i>10 years</i>	0.36 **	0.19 0.68		0.36**	0.19 0.68		0.36**	0.19 0.69	
<i>11 years</i>	0.68	0.37 1.24		0.68	0.37 1.24		0.69	0.38 1.26	
<i>Not low birth weight</i>	1.00			1.00			1.00		
<i>Low birth weight</i>	3.30 **	1.34 8.09		3.30**	1.34 8.09		3.30**	1.35 8.09	
Carer education									
<i>Upper secondary or more</i>				1.00			1.00		
<i>Lower secondary</i>				2.51^	0.98 6.38		2.40^	0.94 6.15	
<i>Primary or less</i>				5.60**	1.88 16.71		5.31 **	1.77 15.99	
Household characteristics									
Number of younger siblings				1.12	0.72 1.74		1.06	0.68 1.66	
Number of adults				0.71*	0.52 0.97		0.69	0.51 0.94	
Father's education									
<i>Upper secondary or more</i>				1.00			1.00		
<i>Lower secondary/ primary or less</i>				0.83	0.43 1.60		0.78	0.40 1.51	
Parental absence 1st 36 mos. of child's life									
<i>Mother not away</i>				1.00			1.00		
<i>Mother away</i>				1.73	0.58 5.16		1.72	0.57 5.23	
<i>Father not away</i>				1.00			1.00		
<i>Father away</i>				2.25^	0.92 5.53		2.28^	0.93 5.59	
Household wealth									
<i>High</i>							1.00		
<i>Medium</i>							1.65	0.78 3.52	
<i>Low</i>							1.72^	0.79 3.72	
Log likelihood	-200.80371			-200.80371			-199.70239		

***p<0.001 **p<0.01 *p<0.05 ^p<0.1

The disadvantage of having a carer with primary education or less is even greater for Vietnamese children, who are over five-and-a-half times ($OR = 5.60, p < 0.01$) more likely to be stunted than their peers whose carer has at least upper secondary education. The odds ratio for children whose carer has lower secondary education, although only marginally significant, suggests a lesser disadvantage ($OR = 2.51, p < 0.1$). These findings are comparable to the well-established risk factor of maternal education for child stunting, which is taken as a marker of the quality of care given to the child and, in particular, the standard of nutrition. Where low educational attainment compromises care quality, the risk of stunting in middle childhood is increased 2- to 5-fold compared to children with better educated carers. We were unable to include interaction terms in the models due to small numbers in some groups and thus cannot test the relationships between migrant-carer status and carer education. Interestingly, the only household characteristic significantly related to child stunting is the number of adults aged 15 years and over in Vietnam, with a higher number of adults associated with reduced odds of the child being stunted, suggesting that the quality of childcare is increased where more adults are present in the household to share the care burden.

The relationships between living in a transnational household and the risks of stunting observed in the base models are attenuated after the addition of carer and household characteristics and father's education, which serves to confirm the protective effects of parental migration only for the children of father migrants/ mother carers in the Philippines (Table 3, Model B). To explore the impact of parental migration further, we included indicators of the timing of parental absence.⁴ We find that paternal absence overseas during the first 36 months of a child's life is not predictive of stunting at ages 9, 10 and 11 in the Philippines but that it appears to more than double the risk of stunting among left-behind children in Vietnam ($OR = 2.25, p < 0.1$); more surprisingly, there is no evidence that maternal absence during the crucial early years is associated with child stunting, although the small number of cases precludes any firm conclusions.

The final, fully-adjusted model for child stunting adds relative household wealth (Tables 3 and 4, Model C). Transnational households with a

⁴ We tested different indicators of parental time away: (a) proportion of child's lifetime mother/father has worked overseas; (b) a dummy indicating whether a mother/father was working overseas during the first 36 months of a child's life. The two indicators are highly correlated, so could not both be included. We chose to use (b) in this study because most stunting occurs in children under three years of age. Note that this variable also accounts for early absences of parents in the currently non-migrant group, although the numbers are small.

currently migrant parent tend to be wealthier than non-migrant households, so we expected the inclusion of the wealth indicator to further attenuate any relationships between migrant-carer status and child stunting. Moreover, since poverty has been identified in other studies as a major risk factor for undernutrition, we expected low relative wealth to be independently associated with higher odds of child stunting. The results only confirm our expectations for the Philippines where the odds of stunting for children in the poorest households are over three times ($OR = 3.04, p < 0.1$) higher than those for children in the richest households. Relative household wealth is not significantly related to stunting among the Vietnamese children, net of all other factors. This finding requires further investigation but may be related to narrower wealth disparities in the Vietnam sample compared to the Philippine sample. Of particular interest here is the impact of including household wealth on the associations between having a migrant parent and the likelihood of being stunted in middle childhood. For Filipino children, the protective effect of having a migrant father and being left in the care of their mother, as observed in the previous model (Table 3, Model B), is no longer significant. This strongly suggests that the nutritional advantages of having a migrant father operate through increased household wealth and therefore greater food security. As we have seen, this advantage does not appear to extend to left-behind children of migrant mothers, nor to children of migrant fathers in Vietnam. Thus, having a migrant parent may reduce the risk of stunting for some children living in transnational households through increases in household wealth, but this effect is limited to children of migrant fathers and is country-specific.

There have been few previous empirical demonstrations of a relationship between parental employment overseas and the nutritional status of children who stay behind, and none that we are aware of which explicitly examines child stunting. However, caution must be exercised in interpreting our findings as they suggest a complex set of associations that point to a differentiated migration effect, which is protective only for some children.

Discussion

This study has examined predictors of stunting, or low height-for-age, for groups of children aged 9, 10 and 11 years in two South-East Asian countries and, in particular, the relationship between household migration status and child stunting. Our initial hypothesis posited a migration effect and a carer effect associated with stunting among children living in transnational households in both the Philippines and Vietnam. The results of the multivariate models demonstrate a number of relationships between type of household

arrangement, the timing of parental absence and the nutritional status of children in middle childhood. The findings suggest a reduced risk only for some children. For others, there appears to be no protective effect of having a migrant parent. Indeed, there is some evidence that a Vietnamese child whose father was working overseas during the first 36 months of his/her life is at higher risk of being stunted in middle childhood.

In the Philippines, poverty and low levels of caregiver educational attainment are found to be the main risk factors for child stunting. Both are considered indicative of the quality of care and nutrition the child receives, regardless of whether one of their parents is a transnational migrant. While having a migrant father reduces the likelihood of stunting relative to children in non-migrant households, being left in the care of someone other than a parent does not. Household wealth attenuates the migration effect for children of migrant fathers, suggesting that the advantages of paternal migration may work primarily through increasing household resources and hence standards of nutrition for children. The nutritional advantages of having a migrant father may also be related to lower levels of disruption in the quality of care provided for children when their mother is the parent who stays behind and/or the greater tendency of mothers to prioritize the nutritional well-being of their children. Although the base model suggests that children of migrant mothers left in the care of their fathers also benefit, further interrogation reveals that this relationship may in part be due to selection into migration as the effect is attenuated when a surrogate for prior socio-economic status (i.e., father's education) is included.

In Vietnam by contrast, relative wealth appears to have no independent influence on the likelihood of being stunted in middle childhood, and a low level of caregiver educational attainment is the main risk factor. Children of migrant fathers and children of migrant mothers who are cared for by non-parental caregivers do not demonstrate a nutritional advantage over their peers living in non-migrant households; nor are they at a disadvantage, unless their caregiver has low educational attainment. Although maternal migration is associated with a reduced risk of stunting in the base model if the child is left in the care of their father, the relationship is attenuated once household characteristics and father's education (as a control for selection into migration) are taken into account. This finding is intriguing precisely because there is no evidence of a similar effect for paternal migration, even in the base model, and the disparity between children living in different transnational household arrangements warrants further research. One possible explanation could be that Vietnamese fathers incur higher debts compared to other groups when taking up overseas employment, and money diverted to debt repayments vitiates otherwise expected improvements in the quantity and quality of food available to those who stay behind.⁵

The nutritional advantage for children cared for by their (better educated) fathers⁶ is less easy to explain but may relate to the patriarchal nature of Vietnamese society, which is also reflected in the higher risk of stunting among girls compared to boys, a gender difference that is not found among Filipino children. Overall, however, there is no evidence to support the idea of a general nutritional advantage for children living in transnational households compared to those in non-migrant households. Rather, having a migrant parent seems to reduce the risk of undernutrition in middle childhood only for one group of children in the Philippines.

There is strong evidence of the well-established association between the education of those looking after the child and the risks of being stunted at ages 9, 10 and 11 in both countries. Although there is a clear association with carer education, which increases the risks of stunting for children cared for by adults with low educational attainment net of other factors, it is more difficult to link this explicitly to parental migration since small numbers in some groups precluded the testing of interactions. Nevertheless, descriptive statistics provide some evidence that migrant mothers may leave their children in the care of an adult with lower educational attainment than themselves. For example, in the Philippine sample, 22.7 percent of migrant mothers have low educational attainment (primary or lower secondary) compared with 45.5 percent of those caring for their children. This suggests that the quality of care may indeed decline for some children and it may be that the absence of a demonstrable advantage of having a migrant mother is related to the counter-balancing effects of wealth increases and a relative care deficit. However, no comparable differences between the education of migrant mothers and those left behind to care for their children is apparent for the Vietnamese sample, where over 80 percent of both groups have low educational attainment. Future research could usefully be directed to disentangling these complex relationships.

⁵ Alternative explanations include the possibility of higher remittances from migrant mothers compared to migrant fathers resulting in better child nutrition, or mothers only migrating when they are happy with the quality of substitute care (e.g., when other adults in the household contribute to childcare). The testing of these explanations is beyond the scope of the present article but could provide a fruitful focus for future studies.

⁶ In many cases where Vietnamese fathers identified themselves as the child's main carer, in-depth interviews conducted in the year after the survey data collection revealed that other family members (usually female) also contributed to childcare (see Hoang and Yeoh, 2012). It could be, therefore, that children 'left in the care of their fathers' actually had more overall support and attention from several carers than children in transnational households cared for by mothers or others. These interviews also highlighted the extent of household debt related to brokering a migration placement.

In common with all cross-sectional analyses, our study is limited by the nature of the data available. Despite being able to include retrospective data for weight at birth and parental absence in early childhood, the CHAMPSEA dataset does not allow us to determine the timing of insults or track changes in stunting over time. We cannot, therefore, identify those who remained stunted through childhood, those who became stunted after infancy, and those who recovered from early stunting; nor do we know whether children who were stunted in infancy were more likely to recover from stunting following the migration of a parent. Longitudinal data are necessary to follow children over time and track changes in their nutritional status.

We recognize too that we have only imperfectly accounted for selection into migration by using father's educational attainment as a marker for prior socio-economic status. It could still be that the parents of children stunted in infancy were less likely to become transnational migrants, or that relatively wealthier parents (with healthier children) were more likely to decide to migrate, and that these differences are not accounted for by our measure of father's educational attainment. Moreover, the inclusion of father's education in the multivariate models effectively controls twice for the educational attainment of fathers who stay behind to look after their children, which may bias the results. More generally, our results on the effects of parental migration may be biased downwards as father's education attainment is likely to influence not only the historical occupation and earnings of a household (i.e., before the decision to migrate) but also the accumulation of wealth over the child's lifetime, including during any period of migration. Thus, using this measure as a control for selection into migration may also capture some of the hypothesized effects of migration more broadly, especially in the Philippines where fathers in transnational households were found to have significantly higher educational attainment than fathers in non-migrant households. Nevertheless, by demonstrating both significant associations between the transnational migration of a parent and stunting for some children who stay behind, and the absence of an association for others, we have identified an important area of study that has previously been neglected.

One further limitation to the study should also be noted. The CHAMPSEA dataset does not include information on nutritional intake, and the measurement of wealth may underestimate differences in food consumption and quality; nor does the dataset allow a detailed exploration of the different pathways that might link the accumulation of wealth from overseas earnings and child nutritional status. In addition to greater food security, Filipino children of migrant fathers living in wealthier transnational households may benefit from changing attitudes to children and their care, including access to medicines and greater knowledge of appropriate treatments for

ailments and illnesses (Hildebrandt and McKenzie, 2005). When a migrant mother or father actively engages in parenting, albeit from a distance, the quality of childcare may thus be improved. Certainly, we found no overall detriment for children of migrant mothers left in the care of their fathers, and little evidence of the expected care deficit. The role of carer education also requires further investigation, as does the relationship between the migrant parent and the principal carer of the child, because both are likely to be implicated in the quality of childcare provided in transnational households. It is difficult to measure the quality of childcare without observational data, and carer education, though important, may be an imperfect marker. More research is needed to understand how other dimensions of (transnational) care impact on undernutrition and stunting in childhood.

The differences between the two countries also provide some interesting pointers for future research. Could it be, for example, that the observed advantage for Filipino children of migrant fathers cared for by their mothers is related to the longer history of international labor migration from the Philippines, compared with Vietnam? Governmental and civil society support for overseas foreign workers is well developed in the Philippines and it is possible that better employment conditions combined with lower levels of debt allow migrant fathers to contribute more to the well-being of their children. In contrast, migrant parents from Vietnam may be less well placed in global employment markets and face a more restricted choice of destinations where personal and geographical ties are able to facilitate their temporary settlement. Whatever the reason, and with the possible exception of children of migrant mothers left in the care of their (better educated) fathers, our findings indicate no difference in the risk of stunting between children living in transnational and non-migrant households in Vietnam. This calls into question the presumed nutritional benefits for children of migrant parents, as well as the desirability of overseas employment as a family livelihood strategy. Further, the lack of similar relationships between living in a transnational household and the risk of stunting in middle childhood in the Philippines and Vietnam illustrates the dangers of generalizing across national and cultural groups (*see also* Graham and Jordan, 2011). Critically, this highlights that, while the Philippines may be the prototype of a labor-exporting nation and the most studied country in South-East Asia, its experiences of transnational migration should not be generalized to other countries in the region.

Implications and Conclusions

The findings of this study suggest that understandings of migrants' transnational practices could usefully be extended to include a wide range of impacts on risk and resilience for children. More needs to be done to

develop theories of transnational migration which incorporate an explicit recognition of the complex interdependencies that influence outcomes for those who stay behind. As Carling (2007) noted, transnational exchanges, which involve both material practices and information transfers, are most frequently examined from the perspective of migrants. Here we have adopted the perspective of non-migrants within transnational households and provided evidence of the varying impacts of such practices on the nutritional status of children who stay behind. Further research is needed to unpack the 'migration effect' in terms of the transnational practices of which it is composed. For our study population, we expect emotional exchanges and practices of 'parenting from a distance' to play an important role, in addition to material and information transfers. We also suspect that structural factors linked to government policy and civil society are influential. This serves as a reminder that theoretical understandings of transnationalism in the context of migration must give appropriate recognition to both diversity and similarity. Transnational practices are rooted in, and reproduce, personal relationships and associated social norms. The bond between parents and young children is almost universally strong and is likely to endure geographical separation. In this respect, there are essential differences between the transnational households in the CHAMPSEA Project and other transnational family forms where, for example, relationships with migrant adult children or more distant kin are implicated in transnational practices. Thus, the constituent activities of transnational exchange, which reproduce personal relationships, will also differ. At the same time, the parent-child bond evident in the CHAMPSEA Project is common to children in both transnational and non-migrant households, albeit experienced differently. Thus, although having a migrant parent is associated with better nutritional outcomes for some children, low education levels among caregivers remains a major risk factor for all children.

Reducing childhood undernutrition is integral to the achievement of the first Millennium Development Goal which aspires to eradicate poverty and hunger (UN Millennium Project, 2005). Stunting is known to result from poverty but serious efforts are still required to reduce its prevalence in many parts of Africa and Asia (UNICEF, 2010). Children who are stunted in infancy and remain stunted, or who become stunted during childhood, are multiply disadvantaged throughout their lives, suffering from impaired cognitive function, delayed schooling and poor employment prospects (Carvalho, 2012). In addition, mothers who are themselves stunted are at greater risk of producing stunted children (Hernández-Díaz et al., 1999; Dekker et al., 2010). Transnational migration has become a livelihood strategy for millions of families in Asia, with remittances supporting those who stay behind. This study has demonstrated the advantages of such a

strategy for one group of such children in the Philippines but no general advantage for children living in transnational households. Whether influenced by better nutrition, improved care, or both, the lower likelihood of stunting among our sample of Filipino children indicates that having a parent working abroad may play an important role in reducing the risk of undernutrition for children who stay behind, even if it does not always do so. The global recession, along with political unrest in the oil rich states of the Middle East and North Africa, currently endangers the jobs of many transnational migrants. If countries of destination reduce their reliance on foreign labor without concomitant improvements in local employment prospects, stunting among school-aged children in sending countries is likely to increase. This could prove a major threat to achieving the reduction in childhood undernutrition enshrined in the United Nations Millennium Development Goals.

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Leaving A Legacy: Parental Migration and School Outcomes Among Young Children in the Philippines*

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This article examines the link between parental migration and young children's education using data from the Philippine country study of the Child Health and Migrant Parents in South-East Asia (CHAMPSEA) Project. The key research question probed here is: what difference does parental migration make to the school outcomes of young children? Specifically, it looks at factors that explain children's school progression (school pacing) and academic performance (school achievement) using multiple regression analysis. These questions are explored using CHAMPSEA data gathered from a survey of children under 12 years of age and their households in Laguna and Batangas (n=487).

The concern that parental absence due to migration can negatively affect the school performance of children is not supported by the study. If parental migration affects school outcomes, it is associated with positive outcomes, or with outcomes which show that children in transnational households are not doing worse than children living with both parents. Positive school outcomes are best associated with a migrant-carer arrangement where fathers work

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abroad and mothers stay home as carers –children in these households fare very well when it comes to school pacing and school achievement. The study concludes that families and households need to provide both economic and psychological support to enhance the chances that children are at pace with their schooling and are doing well at school.

Background

We always think about the future of our kids ... we hope they can finish their studies. That's why their father is working abroad so he can support their studies. Had he stayed here, we would have nothing to support our children's education. – Mother-carer of 11 year-old girl

... I tell them they should really study well as that will be the only legacy that their mother can give them. That's why she works hard abroad so they will be able to finish their studies. – Aunt-carer of four year-old girl¹

The statements above indicate how supporting their children's education is a responsibility Filipino parents try to meet. In encouraging their children to do well in school, it is customary for Filipino parents to say that education is the best legacy they can bequeath to the young ones. When economic resources constrain parents' capacity to perform this role, parents may turn to migration to realize their dreams for their children. The aspiration to provide a better future for their children via education plays a crucial role in the decision of Filipinos to work abroad (ECMI/AOS-Manila et al., 2004; Aguilar et al., 2009; Asis et al., 2005). However, public perceptions about the impact of parental migration on children's well-being see migration as a double-edged sword. On the one hand, remittances are seen as enhancing the children's material well-being, but on the other hand, parental absence is perceived to deprive children of emotional support and care that are detrimental to the children's welfare. With respect to children's education, it is not uncommon to hear opinions that parents went abroad to further their children's education, but their efforts were for naught because their children either stopped schooling or encountered problems in school. The culprit: parental absence (especially the absence of mothers) and the presumption that because parents are not around, the children are lacking in

¹ Interviews with families of migrant workers in Laguna Province, Philippines, 2009.

guidance. In general, the negative press about the presumed ill effects of migration overshadows accounts of children of migrants performing well in school. News in the media of the children of migrants garnering honors and citations during graduation exercises or awards given to outstanding children of overseas Filipinos tends to be viewed as the exception rather than the norm.²

Extant research findings, particularly studies that provide a comparison with non-migrant families, tend to be less pessimistic about the impact of parental migration on children's education. Several studies in the Philippines have shown that supporting the education of children is one of the major uses of remittances (e.g., ECMI/AOS-Manila et al., 2004; Yang, 2006; Aguilar et al., 2009). Contrary to perceptions that remittances mostly go into the purchase of durable goods, findings from Yang's study (2006) indicate that families of migrant workers who received increased remittances (due to the higher dollar-peso exchange rate during the 1997 financial crisis in Asia) used remittances to invest in children's education and start small businesses. The ECMI/AOS-Manila (2004) study, a nationwide survey of 1,443 children in the ages 10-12 conducted in 2003, revealed that the children of overseas Filipino workers (OFWs) had a higher percentage attending private schools compared to the children of non-migrants. Furthermore, similar to an earlier study (Battistella and Conaco, 1998), the 2003 study indicated that the children of OFWs performed just as well, if not better, than the children of non-migrants, with the exception of the children of mother-migrants. In a study of older children 13-16 years old, children of OFWs were found to be more likely to join academic organizations and participate in extra-curricular activities; also, they were more likely to receive school awards compared with the children of non-OFWs (Edillon, 2008). Limiting the sample to children belonging to two-parent families (and thereby controlling for variations in family structures), overall, the study found that two-parent families tended to cope with the strains and stresses of migration. In turn, this contributes to the children's adjustment to the absence of one or both parents. The fact that the care of children remains in the hands of family members suggests that the rearing, nurture and socialization of the children of migrants are likely to adhere to how the migrant parents would raise the children if they were around. In the Philippines, access to the support

² Examples are the Episcopal Commission for the Pastoral Care of Migrants and Itinerant People's yearly search (since 2008) for the Ten Outstanding Sons and Daughters of OFWs and the Bank of Philippine Islands' annual search (since 2007) for Ten Outstanding Children of Expat Pinoys. In the latter search, "expat" refers to expatriate Filipinos or those based abroad. Both awards recognize the children of OFWs who demonstrate excellence in various fields – academics, leadership and community service.

provided by the extended family has assuaged migrant parents' anxieties about leaving their children (*see* Asis et al., 2005; ECMI/AOS-Manila et al., 2004; Aguilar et al., 2009).

In this article, we examine the links between parental migration and children's education using data from the Philippine country study of the Child Health and Migrant Parents in South-East Asia Project (hereafter CHAMPSEA-Philippines). Undertaken between 2008 and 2010 in Indonesia, the Philippines, Thailand and Vietnam, the CHAMPSEA Project sought to examine how the migration of one or both parents affects the health and well-being of young children under 12 years old. Hypotheses concerning these links compare the children in transnational households (i.e., households with one or both parents who were working abroad) with those in usually resident households (i.e., households wherein both parents co-reside with their children) and examine the impact of migration on child health and other well-being indicators in terms of who migrates, who assumes care for the children, the characteristics of the child (particularly gender), and selected community variables (*see* Graham and Yeoh, in this volume).

We focus on education because of the great value placed on this aspect of child welfare in the Philippines. As mentioned earlier, existing research has suggested that remittances from migration contribute to higher likelihood of school attendance (Yang, 2006; Aguilar et al., 2009; ECMI/AOS-Manila et al., 2004), especially higher attendance in private schools which is considered "quality education" in contrast to public school education (ECMI/AOS-Manila et al., 2004; Aguilar et al., 2009). This article turns to another facet of children's schooling – school outcomes – and to examine the factors that are associated with school progression and academic performance. School outcomes here refer to two measures: school pacing, which indicates whether the child's progress or pace in school is in keeping with expected progress by a given age, and school achievement, which indicates the academic performance of a child. The key research question probed here is: what difference does parental migration make to the school outcomes of young children? This key question is broken down into three specific research questions: (1) how do the children in transnational households compare with the children in usually resident (non-migrant) households on education-related indicators?; (2) what factors account for the school outcomes of children in transnational and usually resident households?; and (3) how does the impact of migration compare with other factors in explaining the school outcomes of children? Given the data set, these questions focus on children 9-11 years old. Between presumptions about the positive role of remittances in keeping children in school on the one hand, and alleged negative consequences of parental absence on children's

school performance on the other, the study aims to contribute to a better understanding of whether and how migration affects the school outcomes of young children in the Philippines.

Context and Conceptual Framework

School Outcomes of Filipino Children

One of the outcomes targeted by the Millennium Development Goals (MDGs) is to ensure that by 2015, “children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.” Between 1990, the baseline year, and the most recently available data as of 2011, Table 1 shows that the Philippines slowly progressed in increasing the net enrollment ratio in primary education. However, the proportion of pupils who reach grade 6 and complete primary school is still markedly off the target, 74 percent as of 2011. In contrast, related indicators for promoting gender equality in the primary grades (goal 3) indicate that the Philippines has met the targets way ahead of 2015 – by 2011, the ratio of girls to boys in primary education and the ratio of girls to boys participation rates have been met. Overall, gender disparity in education slightly favors girls in terms of the ratio of girls to boys in primary education, secondary participation rates and tertiary education.

Using data from the 2002 and 2004 Annual Poverty Indicators Survey, Maligalig and Albert (2008:5) found that the three most important reasons given why elementary age children do not attend school are: (1) lack of personal interest, 29 percent and 29.4 percent in 2002 and 2004, respectively; (2) others (could be too young to go to school, not admitted in school, or lack of documents such as birth certificate), 25.3 percent and 27 percent; and (3) high cost of education, 14.8 percent and 15 percent. According to them, lack of interest may actually reflect lack of financial resources, as borne out by data showing that non-attendance in school decreases as the children’s households increase in income level.⁴ Furthermore, children in poor families may forego education and work instead not only because of resource constraints but also the poor quality of education which does not encourage students to remain in school.

⁴ In the Philippines, elementary and high school education is free in the public schools. Primary education for those in the ages 6-11 is compulsory; secondary education is not. Although basic education is free, education-related costs, such as transportation, money for meals, and school projects, can be considerable. These costs are higher for children who attend private schools.

As Table 1 shows, gender disparities in education at all levels are either non-existent or favor girls. The net enrollment ratio in the elementary level used to favor boys until 2005, after which girls outnumbered boys. In general, girls have a higher completion rate at each level (elementary, secondary and tertiary), higher cohort survival rate and higher academic performance (Tan et al., 2011:4). Cultural factors, such as the tendency of Filipino families to be more protective of girls, may incline girls more towards school work. Also, many boys in poor families may stop schooling to work and to augment family income (Tan et al., 2011: 4). Or, in the face of limited resources, various studies have suggested that Filipino families may invest more in daughters' education than in sons' because the former are viewed as more committed to their families (Arguillas and Williams, 2010).

Schooling outcomes have also been explored in relation to early growth retardation. One aspect which has been documented by various studies pertains to the association of height-for-age with retention and promotion in school. Based on a longitudinal data collected from 2000 children in Cebu, Daniels and Adair (2004) examined the effect of height-for-age on age at initial enrollment into school, grade repetition, completion of primary school, and completion of high school. They found that low height-for-age is associated with late enrollment (perhaps because parents perceive tall children as more ready to learn) and the percentage of boys ever repeating a grade was more than double that of girls. Boys and girls who were taller at two years old were markedly less likely to drop out in grade school, to be behind in school, and to drop out of high school. According to the authors, the Philippine context presents contrasting profiles, characterized by high levels of nutritional deficiency among children (the country was in a recession when data were collected in the 1980s) on the one hand, and strong national support for education (mandatory primary school enrollment for all Filipino children) on the other. Although enrollment rates are impressive at elementary school level, lower completion rates reveal the impact of financial constraints that keep children out of school. Against economic odds, Filipino families strive to provide a good education for their children, and children are often reminded of the sacrifices their parents make to put them to school (ECMI/AOS-Manila et al., 2004; Asis, 2006a; Aguilar et al., 2009).

In addition to the studies cited earlier, Arguillas and Williams' (2010) work provides insights into the impact of parental migration on the education of children in the ages 19-21. They considered three education outcomes: number of years of completed schooling, whether or not the child had completed high school, and whether or not the child had obtained some college education. A key independent variable is the family structure which took into account whether a parent had been overseas before the outcome

TABLE 1
MDG INDICATORS ON PRIMARY EDUCATION AND GREATER EQUALITY: PHILIPPINES

GOAL 2. ACHIEVE UNIVERSAL PRIMARY EDUCATION				
target 2.A	Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling			
	Indicator	1990	2011	2015
indicator 2.1	Net enrollment ratio in primary education	84.6	91.2	100.0
indicator 2.2	Proportion of pupils starting grade 1 who reach grade 6 (Cohort Survival Rate)	69.7	73.7	100.0
indicator 2.2a	Primary completion rate	64.2	80.0	100.0
indicator 2.3	Literacy rate of 15 to 24 years old	96.6	97.8	100.0
indicator 2.3a	Ratio of literate females to males of 15-24 year-old	1.0	1.0	1.0
GOAL 3. PROMOTE GENDER EQUALITY AND EMPOWER WOMEN				
target 3.A	Eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015			
	Indicator	1996	2011	2015
indicator 3.1a	Ratio of girls to boys in primary education	1.0	1.1	1.0
indicator 3.1a.1	Ratio of girls to boys in elementary participation rates	1.0	1.0	1.0
indicator 3.1b	Ratio of girls to boys in secondary education	1.1	1.0	1.0
indicator 3.1b.1	Ratio of girls to boys in secondary participation rates	1.2	1.2	1.0
indicator 3.1c	Ratio of girls to boys in tertiary education	1.3 (1993)	1.2	1.0
indicator 3.2	Share of women in wage employment in the non-agricultural sector	40.1 (1990)	41.4	50.0
indicator 3.3	Proportion of seats held by women in national parliament	11.3 (1992)	26.0	50.0

Excerpted from MDGWatch: Statistics at a glance of the Philippines' Progress based on the MDG Indicators, as of September 2013, http://www.nscb.gov.ph/stats/mdg/mdg_watch.asp

of interest had occurred: mother had been overseas, father had been overseas, both parents had been overseas, and both biological parents were at home and had not been overseas. The multivariate analysis shows that in general, there were no statistically significant differences in the schooling outcomes of children residing with both parents and those with parents working abroad (except in cases where both parents were working abroad). Interestingly, where differences surfaced, they were sometimes positive for mother-migrant families. Children whose mothers were working overseas had completed more total years of schooling. Girls were found to fare better than their brothers on two educational measures: matriculation in college and total number of years of schooling. Where both parents had worked abroad, sons tended to complete fewer years of education than those whose parents were at home.

Key Findings in Other Contexts

The relationship between parental migration, care arrangements and school outcomes has been the subject of research in other contexts as well. The variety of methodological approaches, determinants and outcomes of interest, and age group of the children considered have yielded rich but mixed results. School outcomes have been examined in terms of school attendance, school retention, grades, completion, and progression to higher levels of education.

Parental migration has been posited as having a positive impact on household economic resources through remittances which increase household educational investment, reduce child labor, and mitigate the negative effect of parental absence. This found support in Lu and Treiman's (2007) study of the impact of remittances sent by South African Black labor migrants to their families. Remittances also contribute to reducing gender inequalities within families and socio-economic inequities in schooling. The study noted that among migrant households, children in remittance-receiving households are better off than children in households which do not receive remittances – the latter in fact were sometimes worse off compared to children in non-migrant households. Without remittances, migrant households do not have the economic resources to compensate for the difficulties resulting from parental migration. The impact of labor migration on Mexican children's educational aspirations and performance is mixed. Based on a random sample of 7,600 of grammar, junior high and high school level students in a Mexican migrant-sending state, high levels of US immigration were found to be associated with lower aspirations to attend a university at all levels, but a positive relation was found between US migration and grades (Kandel and Kao, 2001). According to the authors,

it appears that temporary labor migration affects children in two ways: remittances allow parents to put the children to school and to enhance the children's well-being, but on the other hand, labor migration offers an alternative pathway to mobility which reduces motivation to aspire for higher education.

In general, the impact of remittances on various school outcomes tends to be positive, although the outcomes may vary according to the gender of the migrant or the child in some cases. In rural Bangladesh, the migration of fathers and brothers has a positive impact on the schooling of both boys and girls. The migration of sisters had no effect on their siblings' education and mothers in migration were too few to arrive at more conclusive findings (Kuhn, 2006).

On the negative side, parental absence due to migration is perceived to deprive children of important support which can result in poor school outcomes. Although it is not focused on the families of migrants, a study in the UK looking into parental engagement and student learning identified social and economic factors that prevent many parents from fully engaging with their children's schooling. The study specified that while it is important to involve parents in school-based activities, the involvement of parents in learning at home is most likely to result in a positive difference to the learning outcomes of young students (Harris and Goodall, 2008). Studies such as this imply that when parents are absent, there is a void in the care and guidance provided to school-age children.

As cited earlier, studies in the Philippines found children in mother-migrant families tending to lag behind in academic performance compared with other children (Battistella and Conaco, 1998; ECMI / AOS-Manila et al., 2004; Asis, 2006b). This may be linked to the difficulties children and families experience when it is the mothers who leave (e.g., ECMI / AOS-Manila et al., 2004; Carandang et al., 2007). In Thailand, the long-term absence of migrant mothers had an adverse effect on school enrollment, but the migration of fathers had no such impact (Jampaklay, 2006). In Sri Lanka, 62 percent of 400 surveyed households reported changes in the behavior of children in the absence of their mothers, of which problems at school were the most frequent (26.5 percent).

Research-based knowledge on the impact of parental migration in Asia converges on the finding that overall, the children left behind are not necessarily worse off than the children living with both parents. Children and their families may not find the migration of one or both parents ideal, but in time, they learn to adjust to this reality and make the best of the situation. The availability, affordability, and immediacy offered by a variety of communication facilities have contributed to narrowing the time and space that separates migrants and their family members. In addition, the

support and assistance provided by the extended family help fill the gap left by migrant parents and assure migrants that their children will be cared for while they are away (Battistella and Conaco, 1998; ECMI/AOS-Manila et al., 2004; Asis, 2006a, 2006b; Hugo and Ukwatta, 2010).

Conceptual Framework

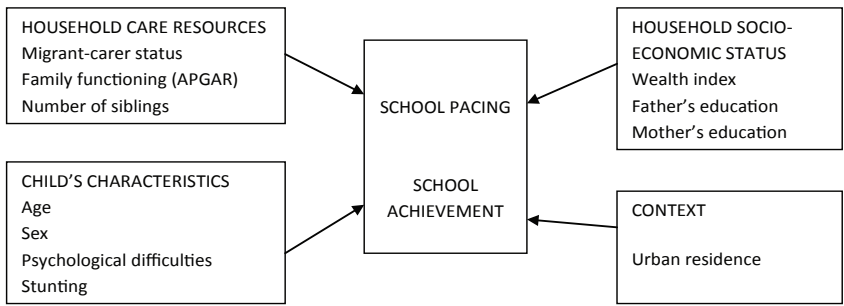
Schooling outcomes could result from a complex web of factors. From the literature survey, we identified four sets of variables that can affect school outcomes. These include: (1) the household care resources – this cluster covers the migrant-carer status of the household, family functioning, and the index child's or IC's number of siblings; and family process (as indicated by the household's migration status and caring arrangement, family functioning and the IC's number of siblings); (2) the IC's characteristics, including psychological well-being and nutritional status (age, sex, total difficulties and stunting); (3) household material resources (wealth index, mother's education and father's education); and (4) community context, as indicated by urban residence (Figure 1).

As outlined in Figure 1, we consider the household as having different resources and constraints that determines its capacity to support the schooling of young children. A household's economic status and child care arrangements can be reconfigured in the face of migration. A household's caring and nurturing function towards its young members depends on who migrates (who will provide economic support) and who assumes caregiving. The migrant-carer status of a household is posited as a key variable in defining children's school outcomes. This cluster also include the child's assessment of satisfaction with family relationships which can be an indication of how well the family provides emotional support while the number of siblings present in the household can have a bearing on the competition for care (as well as material) resources within the household.

A household is also a repository of material resources – a household with ample resource can invest more in children's education. Wealth and the human capital resources of a child's parents can define the educational chances of young children – access to quality education, opportunities to participate in extra-curricular activities, or capacity to avail themselves of educational assistance such as tutors.

The individual characteristics of the IC are significant in school outcomes – a physical condition, such as stunting or psychological distress, can delay a child's progress in school or could get in the way of the learning process. Boys and girls may respond to enabling factors that promote appropriate school pacing and/or academic performance. Based on data from the Cebu Longitudinal Health and Nutrition Survey, Carvalho's (2012) findings that

FIGURE 1
PARENTAL MIGRATION, CARE ARRANGEMENTS AND SCHOOL OUTCOMES



childhood health and nutrition, cognitive and non-cognitive abilities, and early schooling account for one-third to one-half of the intergenerational transmission of socio-economic status reinforces the importance of knowing more about school outcomes. In the context of a high migration environment, it would be interesting to explore whether the economic benefits of migration translate or contribute to better school outcomes.

The final variable is the location of households. The urban, semi-urban, or rural context of households has implications on access to schools, the scope of educational options available to households, and quality of education. In general, more educational institutions are located in urban areas, but on the other hand, the quality of education may be affected adversely by larger classes, among others factors, in urban areas. The urban disadvantage surfaced in the results of the National Achievement Test (NAT) conducted for Grade 3, Grade 6 and fourth year high school students. The NAT results for Grade 6 students show higher mean percentage scores for students in rural areas compared to those in urban areas. Rural students had mean percentage scores of 60.81 percent, 65.52 percent and 66.67 percent for 2007, 2008 and 2009, respectively while urban students scored 59.48 percent, 64.43 percent, and 64.15 percent for the same years. Education officials pointed to congestion and distractions in urban areas, such as malls, as probable reasons why urban students trail behind (Tubeza, 2009).

Data and Methods

The Philippine component of the four-country CHAMPSEA Project was conducted in the provinces of Laguna and Bulacan. Within each province,

communities that are more urban in character and communities that are more rural in character were chosen. These two provinces share similar characteristics: both have had a long history of international labor migration and are among the top origin provinces of international labor migrants; both provinces are situated on Luzon island; they share a common language (Tagalog), an indicator of ethnicity; and both are among the more developed provinces in the country. The similarities “control” for variations that may otherwise be introduced by having different characteristics.

In common with other study countries in the CHAMPSEA Project, data collection was conducted in 2008. Households were selected by flexible quota sampling, with a target of 1,000 households with index children in one of two age groups (3-5 years, and 9-11 years). The absence of a suitable sample frame means that the sample is not nationally representative; rather its composition reflects the high out-migration communities selected. The data employed in this article were drawn from the survey of 1,000 households (509 from Laguna and 491 from Bulacan). The sample included both usually resident or non-migrant households and transnational or migrant households; only two-parent households were eligible to participate. For transnational households, the migrant parents had to be current migrants, i.e., they must have been working overseas for at least six months and they must not have returned home for visits during the same period. For each sample household, interviews were conducted in Tagalog with a responsible adult regarding household-related matters, the primary carer (who may be the same person as the responsible adult) of the index child, and the older child. One index child (hereafter IC) was selected per household according to quota requirements, or randomly where there was more than one qualifying child.⁵ The IC is either a young child (those aged 3-5 years old) or an older child (those in the ages 9-11). Interviews were not conducted with the young children; instead, they were invited to make a drawing of their family. The purpose of the study was explained to all eligible participants and their informed consent acquired before proceeding with the interviews.⁶ For the participating households, anthropometric measurements, including height and weight, were taken of the index children and their siblings who were between ages two and under 12 years old. The analysis of school outcomes is limited to a sub-sample of 487 elementary school-aged children. The analytical sample for the present study comprises 487 households with

⁵ Further details on the sampling strategy are provided in the Editorial Introduction to this volume.

⁶ Ethics approval for the study was granted by the National University of Singapore, the University of St. Andrews, UK and the Scalabrini Migration Center, Philippines.

index children aged between 9 and 11 years, 13 cases where data were missing were dropped, which is 2.6 percent of the total sample. In terms of migration status, the sample is divided into 237 usually resident or non-migrant and 250 transnational or migrant households. In terms of child care arrangements, households were classified into: mother-carer, father-carer, or other-carer households. Information on carer arrangement was combined with the migration status of the household to create the variable migrant-carer status, a critical variable for this study. Usually resident or non-migrant households were those where children were co-resident with both parents while transnational or migrant households were those where one or both parents were working abroad. Transnational households were further categorized into the following groups: father-migrant, mother-migrant, and father and mother-migrants.⁷

Multiple regression was employed to analyze the links between parental migration and school outcomes. For school pacing, we conducted ordinary least squares regression because the dependent variable, school pacing, is an interval variable. For school achievement, we used ordered logistic regression given the ordinal nature of the dependent variable. Considering the focus of the CHAMPSEA study on parental migration and the health and well-being outcomes on the left-behind children, we started with a basic model introducing the migrant-carer status of the household as the lone independent variable to test its relationship with school pacing and school achievement. Building on this basic model, other variables were added – i.e., child's characteristics, household wealth, family functioning, and urban residence – a process which allows a comparison of the contribution of additional variables in explaining the two measures of school outcomes. In the discussion of the results, the results of the basic model and the full model are highlighted.

Definition of Variables

Table 2 presents the variables that were considered in the multivariate analysis. The first outcome measure examined is school pacing, which indicates whether a child is behind, at pace or advanced in school level in relation to his/her age. Kuhn's study (2006) in Bangladesh used the same

⁷ The following abbreviations are used in this article: NM (for non-migrant or usually resident household where the carer is usually the mother), TH-mother carer (a transnational household with the father as migrant and the mother as carer), TH-father carer (a transnational household with the mother as migrant and the father as carer), and TH-other carer (a transnational household with the father, mother or both as migrants and the carer is neither of the parents but another relative or family member).

variable as a dependent variable and we adopted the same procedure in the construction of school pacing. In the Philippine school system, compulsory education begins at age six.⁸ Thus, ages 9-11 would correspond to Grade 4 for nine-year olds, Grade 5 for 10-year-olds, and Grade 6 for 11-year-olds.

TABLE 2
VARIABLES IN THE MULTIVARIATE ANALYSIS

Outcome Variables	
School pacing	Continuous measure of school pacing/progression. It was created by subtracting age in completed years from years of completed schooling plus 6 to account for the average and prescribed age for starting Grade 1. Range: -2 to 2
School achievement	An index created from three variables: IC's class position (1=high; 0=otherwise), ⁹ whether IC has received a positive school report in the past six months (1=yes; 0=no), whether IC has received a negative school report in the past six months (reverse coded, 1=no; 0=yes). Range: 0 to 2 (where higher value is better).
Independent Variables	
Migrant-carer status	Combined measure of a household's migration status and caregiving arrangements. 0=NM 1=TH- mother carer (father migrant) 2=TH- father carer (mother migrant) 3=TH- other carer (father or mother or both parents are migrants and carer is other relative)

⁸ Government-run early education and child development programs (for children aged 3 and 4) are provided in community-based day care centers. Beginning school year 2012-2013, basic education in the Philippines will cover kindergarten, six years of elementary and six years of high school (consisting of four years of junior high school, Grades 7-10, and two years of senior high school, Grades 11-12). Known as the K-to-12 program, the major changes are the introduction of compulsory and free kindergarten education and the addition of two years of high school. The provision of free kindergarten education is provided by Republic Act 10157, "An Act Institutionalizing the Kindergarten Education into the Basic Education System and Appropriating Funds Therefor" (signed into law on 27 February 2012) (PIA, 2012; Ronda, 2012). The restructuring of basic education in the country was accomplished by Republic Act 10533 or the Enhanced Basic Education Act of 2013. Signed into law on 15 May 2013, it institutionalizes the K-to-12 program, it establishes kindergarten as compulsory and adds two years of senior high. The changes are expected to better equip Filipino students with life skills and competencies to ease their entry into the labor market.

⁹ Class position is based on the carer's perception of the IC's ranking in class; it is not based on the actual class standing of the IC.

TABLE 2 (continued)
VARIABLES IN THE MULTIVARIATE ANALYSIS

Total difficulties	It is the summative continuous measure of the Strengths and Difficulties Questionnaire (SDQ) subscales excluding the prosocial scale. The measure was transformed into a binary indicator using the UK cutoff points for 'abnormal cases' which are greater or equal to 17. (The UK cutoff point was used in the absence of a Philippine-specific cutoff point.) ¹⁰ 1=scored 17 or more (denoting difficulties); 0 otherwise		
Stunting	Binary indicator (stunt) created from height-for-age standardized measure (HAZ1) using <-2 SD. 1 indicates stunting; 0 otherwise		
IC's age	Categorical measure of index child's completed years of age where possible values are: 9, 10, 11 Reference category: 9		
IC is girl	IC girl=1; 0=boy		
Household socio-economic status	Categorical measure that ranks households based on level of wealth 1= low wealth (1 st and 2 nd quintiles) 2= average wealth (3 rd and 4 th quintiles) 3= high wealth (5 th quintile)		
Mother's education	Binary variable created from years of completed schooling where 1=primary or lower secondary 2= upper secondary or higher		
Father's education	Binary variable created from years of completed schooling where 1=primary or lower secondary 2= upper secondary or higher		
Family functioning	A binary indicator created from the summed total of five standard items for family functioning based on the Family APGAR (Adaptability, Partnership, Growth, Affection and Resolve) ¹¹ score and using 12/13 as the cutoff. 1 = good family functioning (APGAR score 13 or above) 0 = not good family functioning (APGAR score 12 or below).		
Number of siblings	0= none	1=one	2=two or more
Residence	Categorical measure of residence where 1= urban 2= semi-urban 3= rural town/village Reference category: 1		

¹⁰ The SDQ is a brief behavioral screening questionnaire designed for children and adolescents (ages 4-16). The original test developed by UK child psychiatrist, Dr. Robert N. Goodman, is in English. The project translated it into Filipino and was approved by Dr. Goodman. For basic information on the SDQ, see <http://www.sdqinfo.com/a0.html>; see also Goodman (1997).

¹¹ The Family APGAR is a measure which assesses "a family member's perception of family functioning by his/her satisfaction with family relationships" (for details, see Smilkstein, 1978).

TABLE 3
SOCIO-DEMOGRAPHIC PROFILE OF THE 9-11 YEAR OLDS: CHAMPSEA-PHILIPPINES
(N=487)

Characteristic	Percent	Characteristic	Percent
<i>Gender</i>		<i>Family functioning</i>	
Male	49.5	Good	57.2
Female	50.5	Not good	42.8
<i>Age</i>		<i>Number of siblings</i>	
9	37.4	None	6.2
10	39.4	One	30.4
11	23.2	Two or more	63.4
% of children with psychological difficulties (based on SDQ total difficulties score)	19.1	<i>Mother's education</i>	
		Primary or lower secondary	24.8
		Upper secondary or higher	75.2
% stunted	15.2	<i>Father's education</i>	
<i>Migrant-carer status</i>		Primary or lower secondary	25.7
NM	48.7	Upper secondary or higher	74.3
TH-mother carer	32.4	<i>Residence</i>	
TH-father carer	8.4	Urban	61.8
TH-other carer	10.5	Semi-urban	20.7
		Rural town/village	17.4
<i>Household socio-economic status</i> (Wealth Index)			
Low wealth (1 st -2 nd quintile)	41.3		
Medium wealth (3 rd -4 th quintile)	40.7		
High wealth (5 th quintile)	18.1		

The other school outcome of interest is school achievement, which is based on an index created from three variables, all derived from the carer's report: the class rank or position of the child, whether the child has received a positive school report in the past six months, and whether the child has received a negative report in the past six months. An index, ranging in value from 0 to 2 (higher scores are positive outcomes), was developed from these three variables.

Table 3 shows the profile of the sample of 487 children aged 9-11 and the characteristics of their households in terms of the variables of interest. The sample is about evenly divided in terms of gender composition (49.5 percent were males; 50.5 percent were females). By age, 37.4 percent are 9 years old, 39.4 percent are aged 10, and 23.2 percent are aged 11. About half (48.6 percent) live in households with both parents present, while the rest

– 51.4 percent – are part of transnational households, of whom the largest group (34.7 percent) are in father-migrant households.

The global measure of well-being (derived from responses to the question, “In general, are you happy or unhappy?”) shows that the majority (83 percent) of the children reported that they were happy or very happy.¹² This is supported by their scores in the Strengths and Difficulties Questionnaire (SDQ), an instrument developed to detect psychological difficulties. The total difficulties score sums four sub-scales: emotional symptoms, conduct problems, hyperactivity, and peer relationship problems. Based on a standard cutoff used in the UK (in the absence of a Philippine standard), 81 percent had no psychological difficulties while 19.1 percent were detected as likely to have these difficulties. Asked about what makes them happy, 46 percent cited family-related reasons (mostly, the whole family being together). The other reasons given include playing (28 percent), friends (10 percent) toys/presents (3.3 percent), good grades/praise at school (2.5 percent), and other reasons (11 percent). The things that made them unhappy were mostly things that do not go well with their families (49 percent): getting in trouble with their parents (19 percent), mother or father being away (19 percent) and quarrel with siblings (11 percent). School-related factors accounted for 16 percent of reasons provided (rejection/bullying/quarrel with classmates, 12 percent, and bad grades, four percent).

School Outcomes

Eight out of ten children reported that they enjoy school almost always or always. Based on their own assessment of their grades in school, 66 percent said their grades were about the same as their classmates’, 24 percent said their grades were better, and 10 percent considered their grades as worse than their classmates’.

The bivariate analysis of school outcomes and the migrant-carer status of the children’s households suggests some association between these two variables (Table 4). Children in TH-mother carer households seem to register the most favorable school outcomes: about a third (34.2 percent) of them were advanced in school pacing and a little more than a quarter (27.2 percent) scored the highest in school index. Contrary to earlier findings (e.g., Battistella and Conaco, 1998; ECMI/AOS-Manila et al., 2004) which reported that children left behind by mother migrants were disad-

¹² We opted to use the measure of total difficulties from the Strengths and Difficulties Questionnaire (SDQ) rather than the global statement because the former provides a quantitative indication of the IC’s psychological health.

TABLE 4
SCHOOL OUTCOMES BY MIGRANT-CARER STATUS: CHAMPSEA-PHILIPPINES

School Outcomes	Migrant-Carer Status				Total
	NM	TH-mother carer	TH-father carer	TH-other carer	
School pacing					
Behind	21.5	10.1	19.5	15.7	17.0
On pace	54.0	55.7	61.0	51.0	54.8
Advanced	24.5	34.2	19.5	33.3	28.1
	(237)	(158)	(41)	(51)	(487)
Class position					
Above average	19.8	34.2	34.1	19.6	25.7
Average	75.5	62.2	63.4	74.5	70.0
Below average	4.6	3.8	2.4	5.9	4.3
	(237)	(158)	(41)	(51)	(487)
Positive school report?					
% yes	35.0	55.7	46.3	39.2	43.1
	(237)	(158)	(41)	(51)	(487)
Negative school report?					
% no	86.1	84.8	90.2	94.1	86.9
	(237)	(158)	(41)	(51)	(487)
School achievement index					
0	65.0	45.6	51.2	56.9	56.7
1	21.9	27.2	17.0	29.4	24.0
2	13.1	27.2	31.7	13.7	19.3
	(237)	(158)	(41)	(51)	(487)

vantaged in school performance and psychological measures compared to other children, the present study reveals that children in TH-father carer households were doing well in school achievement. Overall, the children in NM households fared rather poorly compared to children in TH households. As a group, they had the highest share of children who fell behind in terms of school pacing (they were ranked third among those who were advanced), and they ranked last for children who were above average in class position and in getting a positive school report compared to children in TH households. Based on the school index, the children in non-migrant households comprised the largest group among those who scored 0 and were the least likely to score the highest. The strength of the migrant-carer variable in explaining these variations is explored next in the multivariate analysis wherein the role of other variables will be considered.

School Pacing

The results of the basic OLS model show that of the migrant-carer categories, only TH-mother carer is significantly related to school pacing (Table 5).

TABLE 5
REGRESSION ANALYSIS OF SCHOOL PACING

Variables	Basic Model			Full Model		
	Co-efficients	95%	CI	Co-efficients	95%	CI
Constant	-0.0127	-0.12	0.09	-0.0275 (0.1979)	-0.42	0.36
Migrant-Carer Status (NM)						
TH-mother carer	0.2658 *** (0.0850)	0.10	0.43	0.1767 * (0.0893)	0.00	0.35
TH-father carer	0.0127 (0.1400)	-0.26	0.29	-0.0706 (0.1391)	-0.34	0.20
TH-other carer	0.2087 (0.1278)	-0.04	0.46	0.0867 (0.1307)	-0.17	0.34
IC is a girl				0.0652 (0.0724)	-0.08	0.21
IC's age (9 years)						
10 years				0.0144 (0.0838)	-0.15	0.18
11 years				-0.1778 (0.0967)	-0.37	0.01
IC has psychological difficulties				-0.2984 *** (0.0943)	-0.48	-0.11
IC is stunted				-0.2592 ** (0.1059)	-0.47	-0.05
Household socio-economic status (Low)						
Medium household wealth				0.0677 (0.0924)	-0.11	0.25
High household wealth				-0.0056 (0.1193)	-0.24	0.23
Father has high education				0.0714 (0.0989)	-0.12	0.27
Mother has high education				0.2831 ** (0.0963)	0.10	0.47
IC's number of siblings (No sibling)						
One sibling				-0.0698 (0.1636)	-0.39	0.25
2 or more siblings				-0.1352 (0.1594)	-0.45	0.18
Family functioning is good				0.0598 (0.0746)	-0.09	0.21
Residence (Urban)						
Semi-urban				-0.0638 (0.0965)	-0.25	0.13
Rural town/village				-0.2236 * (0.0971)	-0.41	-0.03
R-squared	0.0361			0.1315		
Adjusted R-squared	0.0261			0.1000		
No. of observations	487			487		

* p < .05, ** p < .01, *** p < .001
Values in parentheses refer to the standard error.
Categories in parentheses refer to the omitted category.

Compared with children in non-migrant households, those in TH-mother carer households are more likely to perform well in school pacing and this difference is significant. The data suggest that children in TH-father carer and TH-other carer household are not any more positively or negatively affected by the absence of mothers or both parents.

When other variables are added to the model, TH-mother carer continues to exert a significant positive effect on school pacing (although the effect size is reduced). As in the basic model, children in TH-mother carer households are more likely to do well in school pacing compared to children in NM households. However, children in TH-father carer and TH-other carer households are not more or less advantaged in school pacing compared to children in non-migrant households. In the full model, the four other variables that are significantly affecting school pacing are the following:

- Children with psychological difficulties (based on the SDQ total difficulties score) are less likely to be at pace or advanced in school compared with children who have no psychological difficulties.
- Children who are stunted are less likely to be at pace or advanced in school compared with children who are not afflicted by stunting.
- Children residing in a rural town or village are less likely to be at pace or advanced in school than children living in urban areas.

Most of the predictors of school pacing have economic dimensions. Among the migrant-carer categories, the TH-mother carer households combine the advantages of having fathers as migrants and mothers as primary carers. With fathers likely to be employed in formal sector jobs overseas, they earn more, are more likely to send more remittances and are also less subject to difficult conditions than women migrants in less skilled occupations, particularly those employed as domestic workers. With mothers as carers, it is an arrangement which does not disrupt traditional childcare arrangements. Like most physical health indicators, stunting among young children is linked to economic disadvantages. As such, it is not surprising that it comes out as significantly related to school pacing. Having psychological difficulties is also found to affect school pacing. Thus, it is not only physical health which can be a drawback to school progression, but also the mental health of children. The other variables which reflect economic conditions are mother's education, which contributes positively to school pacing, and residence in rural community or village, which has a negative

effect on school pacing. Interestingly, household wealth or socio-economic status does not appear to have an independent effect on school pacing.

School Achievement

Turning to school achievement, the basic model establishes the positive impact of TH-mother carer households on school achievement – as shown in Table 6, children from these households are two times more likely to score highly in school achievement than children in non-migrant households (OR = 2.28, $p < 0.001$). However, children in TH-father carer and TH-other carer households are not any more or less advantaged compared with children in non-migrant households when it comes to school achievement. The results of the full model (based on odds ratios), as presented in Table 6, show that TH-mother carer continues to have an impact on school achievement when other variables are added, although the odds are reduced (OR = 1.69, $p < 0.01$). Nonetheless, the results suggest no significant difference between children in TH-father carer and TH-other carer households compared with children who co-reside with their parents. The other significant variables affecting school achievement are as follows:

- Children in wealthier (medium and high) households are two times more likely to have high school achievement compared with those in low-wealth households: those from medium-wealth households are twice as likely (OR = 1.93, $p < 0.01$), and those from high-wealth households are close to three times more likely (OR = 2.79, $p < 0.001$) to have high school achievement than their counterparts in low-wealth households. This underscores the capacity of better off families to allocate resources as needed to enhance their children's academic performance.
- Children whose family functioning is good are more likely to have high achievement at school than children who do not perceive their family as functioning well (OR=1.48, $p < .05$). This suggests the importance of a supportive family environment – and children perceiving this to be so – in contributing to children's academic performance.

The two dimensions of school outcomes appear to be influenced by different factors. As regards school pacing, the significant variables revolve around economic-related factors, highlighting the enabling impact of access to resources that allow children to be at pace or advanced in their schooling.

TABLE 6
ORDERED LOGISTIC REGRESSION OF SCHOOL ACHIEVEMENT

Variables	Basic Model			Full Model		
	Odds ratios	95%	CI	Odds ratios	95%	CI
Migrant-Carer Status (<i>NM</i>)						
TH-mother carer	2.28 *** (0.4561)	1.54	3.37 (0.3551)	1.69 **	1.12	2.55
TH-father carer	2.14 (0.7113)	1.11	4.10 (0.4186)	1.27	0.66	2.42
TH-other carer	1.3205 (0.3961)	0.73	2.38 (0.1956)	0.61	0.33	1.15
IC is a girl				1.37 (0.2388)	0.97	1.92
IC's age (<i>9 years</i>)						
10 years				1.07 (0.2169)	0.72	1.59
11 years				1.00 (0.2314)	0.64	1.57
IC has psychological difficulties				0.80 0.1833	0.51	1.25
IC is stunted				0.86 (0.2288)	0.51	1.45
Household socio-economic status (<i>Low</i>)						
Medium household wealth				1.93 ** (0.4333)	1.24	2.99
High household wealth				2.79 *** (0.7922)	1.60	4.87
Father has high education				1.08 (0.2628)	0.67	1.74
Mother has high education				1.12 (0.2582)	0.72	1.76
IC's number of siblings (<i>No sibling</i>)						
One sibling				0.83 (0.3221)	0.39	1.78
2 or more siblings				0.79 (0.3007)	0.37	1.67
Family functioning is good				1.48 * (0.2681)	1.04	2.11
Residence (<i>Urban</i>)						
Semi-urban				1.04 (0.2432)	0.66	1.64
Rural town/village				1.27 (0.2940)	0.81	2.00
Model chi-square	18.75 ***			57.35 ***		
Pseudo R-squared	0.0196			0.0517		
No. of observations	487			487		

* p < .05, ** p < .01, *** p < .001
Values in parentheses refer to the standard error.
Categories in parentheses refer to the omitted category.

Both the basic and full models indicate the migration advantage when it is fathers who migrate and mothers who assume the role of caring for the children. When mothers or both parents are the ones who migrate, children are not necessarily disadvantaged in school pacing relative to children in non-migrant households. When the focus shifts to school achievement, the migration advantage suggested by the basic model (i.e., TH-mother carer being associated with greater likelihood of higher school achievement) is sustained in the full model. As in school pacing, the combined positive effects offered by having a migrant father and caregiving provided by a mother also contribute to greater likelihood for children to attain high achievement at school. While physical health, as indicated by stunting, is not significant in school achievement, children reporting having good family functioning are around one and a half times more likely to have high school achievement than those whose family functions less well. The significance of medium and high household wealth suggests that economic factors are not only important in increasing access to education but they also figure in school achievement, most likely in terms of enabling families to muster financial resources that would contribute to enhanced learning, e.g., participation in extra-curricular activities, tutorials, or Internet access. On the whole, the cluster of variables pertaining to family resources – migrant-carer status, household wealth or socio-economic status and good family functioning – has an important to play in a child's school achievement.

Discussion and Conclusion

Before discussing the findings in relation to the research questions, the usual caveat applies in interpreting the results of the study, particularly the limited size of the non-nationally representative sample. In addition, the delimitation of the sample to two-parent non-migrant and transnational households restricts the generalizability of the findings to other types of families. Although the results may not be representative of all households in the Philippines, nonetheless data from CHAMPSEA-Philippines identified factors that shape school outcomes in the study communities.

Concerning the first question explored in this article – how do children in transnational households compare with those in non-migrant households – the analysis uncovered findings that run contrary to popular perceptions. The concern that parental absence due to migration can negatively affect the school performance of children is not supported by the study. If parental migration affects school outcomes, it is associated with positive outcomes, or with outcomes which show that children in transnational households are not doing worse than children living with both parents. The best scenario is the TH-mother carer household where fathers work abroad and mothers

stay home as carers; children in these households fare very well when it comes to school pacing and school achievement. This migrant-carer set-up combines the possibility for families and households to increase their economic resources and the continuation of the caregiving role of mothers. Although not considered as the ideal carers, the perceived disadvantage of children in father-carer or other-carer households is not supported by the study's findings. Whereas past findings (e.g., Battistella and Conaco, 1998; ECMI/AOS-Manila et al., 2004; Asis, 2006b) found young children in father-carer households worse off than children in other households when it comes to school and some psychological indicators, this was not sustained in the CHAMPSEA study. It could be that the impact of having a migrant mother has changed over time. Investigating the factors that might have produced such change is beyond the scope of the present study and must await future research. It is also possible that the role of fathers as carers was not properly acknowledged in previous studies because of methodological issues – mothers are easier to access as research participants compared to fathers. The efforts of the CHAMPSEA Project to collect data from different types of migrant and non-migrant households provided the opportunity to involve fathers as research participants, to hear their voices, and to see their roles in a different light as well.

The factors that account for school outcomes and the specific impact of migration were the other questions explored by the study. Except for the TH-mother carer arrangement, which is positively associated with both school pacing and school achievement, the other factors that affect school pacing and school achievement can be broadly classified into economic and psychological resources. However, the specific variables that are at work vary. For school pacing, economic factors are salient, as suggested by the impact of the following variables: the negative impact of stunting and rural residence and the positive impact of mother's high education. The negative impact of stunting on school pacing hints at the severe constraints of poor families in supporting children's schooling; moreover, since stunting is an indicator of deprived circumstances in early childhood, it suggests the difficulty of overcoming disadvantages in school pacing faced by children in poor families. The article by Graham and Jordan (this volume) shows that children in (currently) low wealth households in the Philippine sample are three times more likely to be stunted than children in high wealth households. Although the finding is only marginally significant, nonetheless, it indicates that stunting is associated with the current, as well as the past, socio-economic status of the household. Also, children who have psychological difficulties are less likely to be at pace or advanced compared to children without this disadvantage. Broadly speaking, the same combination of economic and psychological resources significantly affect

school achievement, although the specific indicators differ. Contributing to the greater likelihood of school achievement are medium and high household wealth and good family functioning. Unlike school pacing, medium and high household wealth have a more direct and independent effect on school achievement. This suggests that economically better off families are in a better position to enhance the children's academic performance. Should children need tutoring, for example, this will not pose a problem for families with more economic resources. The disadvantaged position of children in poor households is a flashpoint for advocacy and action. However, while economic resources are important, they are not sufficient to promote positive school outcomes. Attending to the psychological health of young children and the children's sense of positive family functioning also contributes to school outcomes. In all, the results affirm that it takes material and caregiving investments to ensure that young children are at pace with their schooling and are doing well in school.

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The Subjective Well-Being of Children in Transnational and Non-Migrant Households: Evidence from Thailand*

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To date, research that includes children's views on parental migration has been insufficient. Based on the children's assessment of well-being, we use a case study of Thailand to ask whether children of overseas migrant parents are less or more resilient compared to children of non-migrant parents. We make use of data from the Child Health and Migrant Parents in South-East Asia (CHAMPSEA) Project, one of the few studies that provide space for children, both of migrant and non-migrant parents, to voice their views. Our sample includes 496 children aged 9 to 11 years old. The outcome variable captures children's subjective well-being as an indicator of whether they are a resilient child. Our multivariate analysis controls for other potential contributing factors, including the children's individual attributes, carer's mental health, parents' education, family functioning as reported by the children, and household economic status in order to investigate the effects of parental migration. Qualitative information from in-depth interviews with selected carers and group interviews with community leaders are also used to explain the results. Our findings highlight the importance of taking into account children's own perceptions. Compared to children of non-migrant parents, those of migrant parents are more likely to give a positive assessment of their own well-being. The other contributing factors include whether the child sees their family as functioning well. In Thailand, international migration is predominantly undertaken by fathers while childcare remains the

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responsibility of mothers, and public attitudes towards overseas migration, especially paternal migration, is generally favorable. This may help explain the positive perception of children of migrants towards themselves.

Introduction

In transnational or migrant families, the geographical separation of parents and children marks a departure from the 'ideal' family because of the absence of one or both parents who are most frequently considered the best caregivers. Past studies posit that parental absence for a long period of time has negative consequences for children in the dimensions of social, psychological, and academic functioning. The impacts on children can have long-lasting consequences into adulthood (Litchter, 1997).

We argue that in understanding the potential consequences of parental migration for children's well-being, children's own perspectives should be considered as central. The United Nations Convention on the Rights of the Child states that *"the primary consideration in all actions concerning children must be in their best interest and their views must be taken into account"* (Articles 3 and 12, UNICEF, n.d.). While parental absence may be seen by adults as lack of supervision, children might view it as allowing an independent life without restrictive parental control. Many existing studies on migration have presented negative consequences for left-behind children. These studies, however, mainly focus on using standard measures based on the perspectives of a responsible adult, carer, or teacher. Research on the effects of parental migration through the lens of children's views has been insufficient to date. This is partly due to the limitation of available data on which such research is based.

While there are a number of studies of left-behind children in other regions of the world, such as Latin America and Africa, relatively little research has been done in an Asian context. In this analysis, we use a case study of Thailand to ask whether children of overseas migrant parents are more or less resilient compared to children of non-migrant parents. Our analysis makes use of data from the Child Health and Migrant Parents in South-East Asia (CHAMPSEA) Project, one of the few studies that provide space for children's voices. We emphasize children's views on their own well-being, how they see their family, and their general views on parents working abroad. The results highlight both the importance of taking into account children's own perception and the importance of understanding the in-country context of migration.

This article is an initial attempt in the Thai context to explore children's perceptions of their own lives, in particular their experiences of living in transnational families. In the first section, we discuss the theoretical perspectives on which this article is based, as well as the concepts of subjective well-being and resilience. The article then discusses in detail the issues of parental overseas migration and left-behind children, both as represented in the wider literature and, specifically, in the context of Thailand. This is followed by sections considering the methodology for the empirical analysis, and the findings and discussion. The final section offers some concluding remarks.

Theoretical Backdrop

Children's Subjective Well-being and Parental Overseas Migration

Subjective well-being, defined as people's cognitive and affective evaluations of their lives (Diener, 2000), is increasingly indispensable for positive psychological health, although not a sufficient condition for it (Diener et al., 1998). Subjective well-being can be in terms of cognitive states such as satisfaction with one's marriage, work, and life, and can be an on-going affect. The concept of subjective well-being allows people to define well-being for themselves, as people have different values, goals, and strengths (Diener et al., 1998). As people throughout the world fulfill more of their basic material needs, it is likely that subjective well-being will become an even more valued goal. Studies in many countries indicate that happiness and life satisfaction have been rated as very important (King and Napa, 1997, as cited in Diener et al., 1998). Subjective well-being is sometimes labelled "happiness."

In the context of children and parental overseas migration, in many settings (e.g., the Philippines), cultural assumptions about parent-child relationships put considerable authority as well as responsibility on parents in defining their children's well-being. Children are portrayed as lacking in sense or knowledge, and as innocent, vulnerable, and defenseless. Implicitly, as suggested by Asis (2006), we ignore children's concerns when we assume that a parent knows what is best for his or her child. This perception may leave children more vulnerable. More research based on children's subjective well-being or their role as active agents rather than passive subjects is needed. Viewing children from their own perspective may lead to children taking a more active part in shaping responses to the absence of one or both parents.

Children's Resilience and Parental Overseas Migration

Resilience, originally referred to as a personality trait, is defined as the ability to bounce back or cope successfully despite substantial adversity (Rutter, 1985). In the past few years, the most common definition of resilience is "positive adaptation despite adversity" (Luthar, 2006), thus implying two distinct dimensions of resilience: significant adversity and positive adaptation. In fact, scholars suggest that resilience is never directly measured, but is indirectly inferred from evidence of the two dimensions. The notion of resilience, once known as invulnerable and invincible, has a sense of recovery and rebounding despite adversity or change (Earvolino-Ramirez, 2007). In their review of the use of the concept of resilience in Aboriginal research, Fleming and Ledogar (2008) suggest two additional concepts. The first one is resilient reintegration, in which a confrontation with adversity leads individuals to a new level of growth. The other is the notion that resilience is an innate quality that needs only to be properly awakened. Although there may be debate about the processes that lead to resilience, it remains a useful concept for understanding certain aspects of children's lives.

The concept of resilience has received significant attention in various fields of research, especially research on children and youth. In examining children who appeared to be invulnerable to adverse life situations, psychiatric literature indicates that children are highly resilient despite multiple risks, including poverty or other adverse conditions such as parental divorce, alcoholism, or mental illness (Earvolino-Ramirez, 2007). An aspect of resilience in research on children and youth which should be noted is the important observation that a child may demonstrate resilience in one domain, while showing disorder in another domain. In her study, Luthar (2006) notes that some children who encounter significant hardship but demonstrate academic capability at the same time undergo some psychological and emotional difficulties including anxiety and even depression. Thus, resilience in one domain, which is education in this case, may co-exist with adverse outcome in another domain (psychological/emotional disorder) in the same child.

The attributes that identify a child as resilient are distinguished as protective factors as mentioned in several research studies (e.g., Johnson and Wiechelt, 2004; Werner and Smith, 2001; Dyer and McGuinness, 1996). These include positive relationships, sense of personal worth, belief in her or his self-efficacy, sense of humor, and high expectations. In the context of parental migration, being left in the care of non-parents may be considered as an adverse condition for children of overseas migrants.

While the migration of parents potentially leads to an improved household financial situation, it may put children of migrant parents at risk due

to lack of parental care and supervision. The mixed results from previous studies (e.g., ECMI/AOS–Manila et al., 2004; Asis, 2006), however, suggest that some children of migrants are resilient; that is, they have an ability to cope with living separately from their parent or parents that is reflected in their positive, rather than negative, well-being. Therefore, understanding the impacts of parental migration upon children will benefit from a consideration of the concept of resilience.

Parental Overseas Migration and Left-behind Children

The understanding of well-being among children of migrant parents in the country of origin has only recently received research attention. Especially in the South-East Asian context, despite being a long-established labor exporting region, research delving into this topic has been scarce. Most studies on left-behind families are in the context of the US as destination and countries of origin for US-bound migration flows. Extending the geographical reach of such studies is important because comparative studies help in the understanding of similarities and differences across contexts. Among the few studies within an Asian context, research on Sri Lanka and the Philippines is most prominent, due partly to their longer-established history of sending migrants abroad (Yeoh et al., 2009).

Previous research has looked at various outcomes of parental migration for children, including physical health, psychological well-being, and schooling. However, in all these dimensions, mixed results appear at best. It is widely noted that migration usually improves life conditions although it may well be damaging in other ways, e.g., higher likelihood of drug abuse, precocious sexual relationships and higher likelihood of dropping out of school (Farrow, 2007). While a study by ECMI/AOS–Manila et al., (2004) finds that children of overseas migrants in the Philippines are taller and have better general health, Cameron and Lim's (2005) research indicates that nutritional outcomes are worse among children whose parents are both migrants compared to children from non-migrant families. The latter study, however, neither distinguished overseas from internal migration, nor did it separate absence due to marital dissolution from absence due to migration, thus making it difficult to draw any conclusions about the effects of migration.

Using the data set from the project, Jordan and Graham (2012) found that children of migrant fathers and of migrant mothers are less likely to be generally happy when compared to children living with both parents. In addition, their study finds that the migration status of parents is not significantly associated with children's enjoyment of school, and they conclude that in the school setting, children of migrant parents do not significantly

differ from their peers who have both parents currently at home. Using the same data set, rather than looking at the outcomes of general happiness and school enjoyment separately, our study further expands Jordan and Graham's study by combining the two aspects of children's subjective well-being, i.e., perceptions on general happiness and school enjoyment, as a proxy for resilience in relation to parental overseas migration.

On the one hand, the positive effects of migration include higher economic status of migrant families as well as better quality of childcare (ECMI/AOS–Manila et al., 2004; Asis, 2006). On the other hand, several challenges posed by parental migration suggest that the lack of parental presence for a long period of time has lasting negative consequences for children (e.g., Cortina, 2006). A lack of parental monitoring and constant support can contribute to left-behind children being vulnerable to psychological and behavioral difficulties (Robila, 2010). At the same time, parental monitoring can also create stress for children. This is noted by Robila (2010) who found that in Romania, higher monitoring was associated with children's lower satisfaction in life. It is not clear, however, how monitoring in this case was measured. Past studies also point out different potential impacts on left-behind children. For example, a study in the Philippines suggested that, although migration creates emotional displacement for migrants and their children, it also opens up possibilities for children's agency and independence (Asis, 2006).

The degree to which the left-behind family, including children, accept and are satisfied with migration determines the psychological well-being of the left-behind family. This is illustrated in Robila's (2010) study which found that, although their parents are working abroad, Romanian children feel that they provide support and monitor their actions. Higher satisfaction with migration was related to higher parental support, lower levels of conflict, and lower psychological stress. The author argues that the more the children are aware and accepting of migration, the better adjusted they become (Robila, 2010).

Parental Overseas Migration and Left-behind Children in the Thai Context

Thailand has been characterized by both internal and international migration. As in other developing countries, rural-urban labor migration has become a coping strategy for the rural Thai population. Isan or the northeastern region is a prime labor sender to other urban areas, especially Bangkok. Indebtedness, which results from the inability of farming families to recover their investments in agriculture, creates the need for additional sources of income (Porpora and Lim, 1987). By the late 1980s, migrants, of whom the majority were originally from Isan, accounted for about 30 percent of the population in Bangkok (Richter et al., 1997). Seasonal migration is also

common among people from the northeast due to surplus labor outside traditional planting and harvesting periods. The seasonal or periodic nature of agricultural work allows rural farmers to seek alternative sources of cash income elsewhere, while maintaining their farming activities at their places of origin. This produces both rural-urban and rural-rural migration streams.

Thailand is also known as a country that exports migrant workers. Since the mid-1970s, Thai laborers sought jobs abroad, mostly in Middle-Eastern countries where there was a huge demand for construction workers. Overseas migration from Thailand to Saudi Arabia has declined since a diplomatic incident in the late 1980s (IOM, 2003). As the demand for workers is mostly in the construction sector, about 85 percent of Thai migrants are male (Sciortino and Punpuing, 2009). Women seeking work abroad is a more recent phenomenon in Thailand. Thus, their numbers remain relatively small. Most of the women migrants are drawn into factory work, especially in South Korea and Taiwan. In 2007, the Ministry of Labor reported about 500,000 Thais working overseas (Sciortino and Punpuing, 2009).

In general, households of international migrants are relatively better off and have more material possessions. Although there are failed migrants, success stories are more noticeable and the improved economic appearance of transnational households becomes a motivation for neighbors and the younger generation. Overseas migrants are treated as role models. Parents expect their children to work overseas and remit money home. As such, they try their best to enable their children to get a job in another country. In the CHAMPSEA study communities, young people were said to look forward to the end of schooling when they would be able to go abroad to work (Group interviews with community leaders, 2008).

Despite migration being a crucial feature of rural livelihoods in Thailand, studies on the implications of parental migration for children's welfare have been limited. This holds true for both internal and international migration. Available data at the national level in Thailand only show the prevalence of children living separately from parents without distinguishing the causes of separation. Thus, the population of children of international migrant parents is not known. For example, data at the national level, calculated from the Socioeconomic Survey of Thailand in 1986 and 2006, show that the percentage of children under 18 living with grandparents in the absence of both parents increased in the past two decades, from about two percent in 1986 to eight percent in 2006. These figures include children whose parents passed away, had marital dissolution, or migrated for work-related reasons. Unfortunately, the proportion of children whose parents are away due to working somewhere else is not known. To investigate the impacts of parental migration on the well-being of left-behind children, we need more specific data that allow us to distinguish different causes of parental absence.

Bryant's (2005) report provides the only available estimation of numbers of children left behind in Thailand by international migrant parents. According to the report, the estimated figure of children whose parents are working overseas is half a million. This number implies that approximately 2-3 percent of Thai children have a parent overseas. How this migration affects children remains far from clear. Theoretically, migration may affect children, adolescents, and caregivers through a multiplicity of mechanisms. Public policies seeking to minimize the negative impacts of migration, while maximizing its positive effects should highlight the distinct causal mechanisms by which each group is affected in order to inform the design and choice of policy, monitor its implementation and evaluate its impacts.

The few studies that have addressed the impacts of migration on children left behind in the Thai context are mostly small-scale. Migration studies involving large samples that can compare the children of migrants and non-migrants are very rare. A study by Puapongsakorn and Sangthanapurk (1988) suggested that international migration is related to marital disruption and a rise in child truancy. Another study (Jones and Kittisuksatit, 2003), however, found little evidence that children of overseas migrant parents experienced a higher incidence of social problems.

Past studies in Thailand also looked at outcomes on morbidity and child development and education. A study by Nanthamongkolchai et al. (2006) found no relationship between parental migration and child's sickness in the past six months and nutritional status. The study found a negative relationship between parental migration and child development and child caring. The authors show that children who lived in 'migrant' households were 1.4 times more likely to have lower IQ than their counterparts in non-migrant households. In Jampaklay's article (2006), mixed impacts of parental absence on children's educational attainment are noted. While the analysis revealed a negative effect of the long-term absence of mothers and the short-term absence of fathers, it showed a positive effect of the long-term absence of fathers. The results pointed to the importance of the duration of absence as well as whether mother or father is absent. The author argues that while migrants' remittances may help keep left-behind children in school, remittances might also contribute to children leaving school and migrating for work.

Methodology

Data and Sample

Our analysis employs data from the CHAMPSEA Project, which is a comparative study of four countries: the Philippines, Indonesia, Thailand, and

Vietnam, led by researchers at the National University of Singapore and the University of St. Andrews, in collaboration with researchers in academic institutes in the four countries. The details of CHAMPSEA's methodology can be found elsewhere (Graham and Jordan, 2011; Jordan and Graham, 2012; Graham and Yeoh, this volume). Briefly, the project collected data on about 1,000 index children (ICs) aged 3-5 (young) or 9-11 (older) years old and their households, one child per household, for each country. Three types of structured questionnaires were used in the data collection; i.e., a household questionnaire administered to a responsible adult in the household, a carer questionnaire administered to the main carer of the index child, and an older child questionnaire administered to an index child aged 9-11 years old. In addition, the group interview of key informants was conducted in order to collect community information as well as the opinions on the impacts of overseas migration on their communities. The CHAMPSEA Project provides a unique data set that comprehensively focuses on the impacts of overseas parental migration on the health and well-being of left-behind children in four South-East Asian countries. In this study, we concentrate on the context of Thailand. This is the first study in Thailand specifically investigating the child health impacts of parental overseas migration.

The study sample in this analysis comprise 496 index children aged 9 to 11 years old with complete information on variables included in the analysis. Twenty-five cases (4.8 percent of the total sample) were dropped due to incomplete information. About half of the study children (49.6 percent) had both parents staying with them in their residence. Forty-seven percent of the study children had father-only migrant, 3.0 percent had both parents as migrants, and only two children had mother-only migrant. Most of the children had their mothers as their main caregiver or carer (92 percent).

Study Setting

For CHAMPSEA Thailand, we conducted the fieldwork in two provinces, Udon Thani and Lampang. These provinces were selected based on the study's two main criteria. The first criterion required the identification of provinces with relatively high number of overseas migrants so as to increase the probability of meeting the survey quotas of eligible households within the time period. The second criterion was that the two sites should be diverse in terms of geographical location to capture the effects of different contexts. Udon Thani, located in the northeastern region, the least prosperous region in Thailand, has been known as the top overseas labor sending region for more than three decades. The withdrawal of American troops in 1976 from the air-base established during the Vietnam War left many

local men jobless. Many later found employment as construction workers in the Middle East, which was experiencing a construction boom and had a huge demand for experienced workers. The Thai government facilitated their migration. The success stories spread quickly throughout the province and region, attracting more and more workers in search of their fortunes.

Lampang, although it ranks as the eighth labor sending region in the country, is the top labor sending province in the northern region. The province is known for its craft and artisan skills, which have been passed on from generation to generation. This is probably one of the reasons why its residents of working age are highly sought after by the construction industry, both within Thailand and overseas. As a result, there is a high prevalence of migrants working in other countries and leaving their families behind. The first group of labor migrants went abroad around 1975. Major destinations currently include countries in Africa, Taiwan, South Korea, Brunei, Libya, Qatar, Kuwait, UAE, Saudi Arabia, and Oman.

Measurement of Key Variables

The outcome variable for the modeling captures children's subjective well-being (i.e., whether they are a *resilient child*) by combining children's responses to two questions: (1) whether they enjoy school, and (2) how happy they are in general. We consider a given child who answered "always enjoy school" and "are very happy" as a resilient child. We combined results from two questions to obtain an overview of resilience from the child's perspective. Although being happy or always enjoying school are not directly mentioned as attributes of being resilient, past studies measuring happiness have used many different indicators, including self-reported life satisfaction (e.g., Biswas-Diener et al., 2005). Previous studies suggest that self-reports of subjective well-being constitute a valid instrument that correlates with measures of self-esteem, optimism, as well as self-efficacy (Diener and Suh, 1999). These are qualities considered as protecting factors in terms of the concept of resilience. Thus, this paper regards these two subjective responses of happiness and school enjoyment as proxies for resilience. At the same time, it should be noted that this 'combined index' of subjective well-being is rather narrow as a measure of resilience, because other key dimensions of resilience (beyond enjoying school and general happiness) are not captured in the analysis.

The question may also be raised about the reliability of responses from children aged 9-11. While the question is valid in its own right, it implies an attitude which assumes that children are passive and incompetent actors. The age range of 9-11 is considered middle childhood. In fact, during this age range, children develop a sense of competence, forming ideas about their

abilities, especially the development of attitudes towards school, academic achievement, and aspiration for the future, which can have major implications for their success as adults (Garcia Coll and Szalacha, 2004: 82). From a child rights' perspective, society needs to recognize children as valued contributors on the issues that affect them and should be listened to as experts of their own lives, regardless of age. While a child is regarded as a person of a lower level of maturity, the notion implies their need for adult protection, love and nurturing, which is different from ignoring their voice. Child development research suggests that 9-11 years or middle childhood is an important time for children to gain a sense of responsibility along with their growing independence (CDC, 2013). In addition, it is also suggested that older children (aged 9-11) begin to think more logically about events. While they do not think abstractly the way adults do, they begin to understand more complex ideas and their insights can be amazingly deep. Although older kids still rarely see the whole picture and do not always put together their conclusions in a logical or adult way, they start to look at causes for events and ask more challenging questions (PBS, 2013). In the context of the CHAMPSEA Project, previous analysis (Jordan and Graham, 2012) demonstrates very similar results for child's and adult's reports on particular topics. This article focuses on children's insights using responses from children of 9-11 years old, and as this previous work suggests, the index children are quite capable of providing insights comparable to those of adults in their households.

As will be discussed in the next section, the results from the two questions on happiness and school enjoyment are not perfectly correlated. While general happiness may sufficiently imply children's perceived well-being, it might not reflect their well-being in school life, which is an important sphere in the lives of those in middle childhood. Hence, a combination of general happiness and enjoyment at school provides a more comprehensive measure of children's subjective well-being, and thus resilience, compared to using each measure alone.

Our main independent variable is whether a child has one or both parents working abroad. The variable is coded 1 if one or both parents are abroad and 0 otherwise (both parents are usually resident at the same address as the index child). Our multivariate analysis controls for other potential contributing factors, including the children's individual attributes (i.e., age, sex, presence of siblings, school performance), their views towards parental migration, carer's mental health, parents' education, family functioning reported by the children, and the household's economic status. We anticipate that children who have a positive view on their parents' migration will be better able to adjust to the parents' absence and thus, more resilient.

Carer's mental health could also be closely related to children's well-being and parents' education could affect children's resilience. CHAMP-SEA measures the mental health status of carers using the Self Reporting Questionnaire-20 (SRQ-20), an effective and low-cost screening measure of mental health developed and recommended by the World Health Organization (WHO) as a valid and adaptable method for evaluating mental distress (WHO, 1994). The SRQ-20 is a self-administered measure of psychological distress, containing 20 items, marked dichotomously (yes= 1, no= 0) over a 30-day recall period. Thus, the maximum score is 20. Previous literature (e.g., Harpham et al., 2003; Richardson et al., 2010) recommended a cut-off of 7/8 (i.e., 7 and below = probable non-case; 8 and above = probable case).

We categorize parents' education into two groups: (1) primary level or less and (2) secondary level and more. About two-thirds of parents (64 percent of fathers and 67 percent of mothers) have no more than primary level education. Family functioning, measured by the family APGAR (adaptability, partnership, growth, affection, and resolve), as reported by index children, is another variable which might be related to children's resilience. The family APGAR is a short and suitable screening tool to assess family functioning, proposed by Smikestein (1978) and widely validated and used, including in Asian contexts (Smilkstein et al., 1982; Preechawong, et.al., 2007; Panganiban-Corales and Medina, 2011; Kim et al., 2012). We use the family APGAR score as a continuous variable. Children who see their family as functioning well may be more likely to be resilient in the face of their parental absence. Lastly, household economic status, as measured by the asset-based household wealth index, is another external factor which is potentially associated with children's resilience.

Findings and Discussion

Table 1 shows the percentage distribution of 496 children aged 9 to 11 according to their general happiness and school enjoyment, the two questions on which the dependent variable is based. The majority of the children are resilient, both in terms of their perceived general happiness and enjoyment at school: 94 percent considered themselves happy or very happy, while only six percent reported less happy (neither happy nor unhappy, unhappy, or very unhappy). From this minority group, most answered neither happy nor unhappy, and only three and two children reported 'unhappy' and 'very unhappy,' respectively. Most of the children also enjoy school with about two-thirds reporting that they always enjoy school and 17 percent reporting that they almost always enjoy school. Most of the remaining 17 percent answered that they enjoy school some of the time, and only three children and one child answered 'hardly ever' and 'never,' respectively. By

TABLE 1
GENERAL HAPPINESS AND ENJOYMENT AT SCHOOL AMONG CHILDREN AGED 9 TO 11

	Percentage
General happiness	
Very happy	45.0
Happy	49.0
* Neither happy or unhappy/unhappy/very unhappy	6.1
	(n=496)
Enjoyment at school	
Always enjoy school	66.7
Almost always enjoy school	16.7
** Some of the time/hardly ever/never	16.5
	(n=496)

* From this group, 3 answered unhappy and 2 very unhappy
** From this group, 3 answered hardly ever and 1 never enjoyed school

and large, children in our study are resilient, which might reflect children at this age in general.

The results of combining these two questions, as a proxy for the subjective well-being of children, are shown in the next crosstabulation table. The results are consistent with what one might expect, namely that children who enjoy school are also generally happy. Children who reported that they always enjoy school are more likely to report that they are very happy. The percentages responding ‘very happy’ among children who reported that they enjoyed school ‘always,’ ‘almost always,’ and ‘some of the time/hardly ever/never’ are 54 percent, 24 percent, and 32 percent, respectively. This shows that general happiness is not perfectly correlated with enjoying school as the percentage of children who said they were very happy is lower among those who almost always enjoyed school compared to those who did not enjoy school. Although the percentage of children who are not happy is also smallest among children who always enjoy school, a Chi-squared test reveals that the difference between the two measures (of happiness and school enjoyment) is statistically significant ($\text{Chi}^2=29.15, p<0.001$).

Table 2 shows that children who always enjoy school are not always happy, and those who say that they are very happy do not always enjoy school. To get a stronger sense of subjective well-being, we created a proxy variable to indicate whether or not a child is resilient by taking into account both happiness in general and enjoyment at school. The children who answered very happy and always enjoy school are considered “a resilient child.” The children are classified into two groups, resilient or otherwise. Our dependent variable is thus an indicator of a resilient child who is coping well with both school and life more generally, while the other group

TABLE 2
PERCENTAGE OF CHILDREN BY GENERAL HAPPINESS AND ENJOYMENT AT SCHOOL

General happiness	Enjoyment at school			Overall
	Always	Almost always	Others	
Very happy	53.5	24.1	31.7	45.0
Happy	42.0	66.3	59.8	49.0
Others	4.5	9.6	8.5	6.1
N	331	83	82	496

Chi²=29.15, p<0.001

represents less resilient children who are not necessarily unhappy but have lower subjective assessments of their own well-being. The data show that children who are very happy in general and also always enjoy school account for a little more than one-third (35.7 percent) of the sample.

Table 3 reports crosstabulations of the ‘resilient child’ indicator variable across all independent variables, categorized into child’s individual characteristics and household’s characteristics, including migration status of parents. We also tested for statistically significant relationships between the dependent variable (being a resilient child) and each independent variable using Chi-squared test for categorical variables and a t-test for interval variables. The proportions of resilient children are not much different across child’s characteristics and household’s characteristics, suggesting that other determining factors for children’s resilience may not be captured by the independent variables. Our bivariate results, however, show that being a resilient child is significantly related to the migration status of parents. The proportion of resilient children is evidently higher among children of migrant parents, compared to the children of non-migrant parents (41 percent compared to 31 percent). The other variable – besides the migration status of parents – significantly related to being a resilient child is the child’s positive attitude towards fathers working abroad. The proportion of resilient children is higher among children who think that it is very good if a father works abroad (38 percent), while it is only 26 percent among those who expressed a more negative attitude. The proportion of resilient children among those with positive perceptions towards a mother working abroad is also higher, but the difference is not significant.

None of the other variables are significantly related to being a resilient child. Some marked differences, however, may be noted. A higher proportion of girls than boys are resilient (37 percent compared to 34 percent). More children who reported above average school performance are resilient compared to those who did not (41 percent compared to 34 percent). This is

TABLE 3
RESILIENT CHILD BY SELECTED CHARACTERISTICS OF THE CHILD, CARERS AND HOUSEHOLD

Characteristics	Whether a child is “a resilient child”		Total
	Yes	No	
Dependent variable: “Resilient child”?	35.7	64.3	496
Gender			
Female	37.5	62.6	251
Male	33.9	66.1	245
Age			
9	36.1	63.9	166
10	35.7	64.3	171
11	35.2	64.8	159
No. of siblings			
No sibling	35.6	64.4	160
Have at least one sibling	35.7	64.3	336
School performance (child report)			
Average/below average	33.6	66.4	351
Above average	40.7	59.3	145
School performance (carer report)			
Average/below average	35.3	64.7	431
Above average	38.5	61.5	65
IC works to support family?			
No	35.5	64.5	437
Yes	37.3	62.7	59
Migration status of parents*			
Non-migrant	30.5	69.5	246
Migrant	40.8	59.2	250
Mother ever moved for work since IC’s birth			
Ever	30.4	69.6	69
Never	36.5	63.5	427
Carer’s mental health is poor			
Yes	29.8	70.3	121
No	37.6	62.4	375
APGAR mean score (child report)	14.0 (3.2)	14.2 (2.9)	496
Father’s education			
Primary or less	37.8	62.2	315
Secondary+	32.0	68.0	181
Mother’s education			
Primary or less	37.5	62.5	331
Secondary+	32.1	67.9	165
Household economic status (wealth index)			
Low	36.7	63.3	188
Medium	32.6	67.4	181
High	38.6	61.4	127
Father working abroad is very good*			
No	26.3	73.7	99
Yes	38.0	62.0	397
Mother working abroad is very good			
No	32.7	67.3	272
Yes	39.3	60.7	224

*Chi-squared test is significant at <0.05 level

also true for school performance as reported by main carers. More children whose main carer reported above average school performance are resilient, compared to their counterparts whose carers reported less positive school performance (38 percent compared to 35 percent), although the difference is smaller than when using school performance from child reports. A higher percentage of children whose mothers have never migrated for work since their birth were found to be resilient (37 percent), compared to children of ever-migrant mothers (30 percent). Similarly, more children whose carers do not have poor mental health were found to be resilient (38 percent), compared to children whose carers have mental health problems (30 percent). Surprisingly, a higher percentage of resilient children have fathers with less than secondary education (38 percent), compared to children of fathers with at least secondary education (32 percent); child resilience and mothers' education show a similar difference with comparable percentages of 37 percent and 32 percent, respectively. Further, using the wealth index as a measure of household economic status, bivariate analysis indicates the highest percentage of resilient children among those in high wealth households (39 percent) but the lowest percentage of resilient children in the medium wealth group (33 percent). This raises interesting questions about the relationship between children's subjective well-being/resilience and the socio-economic characteristics of their households, since resilience is not always associated with achievement of higher socio-economic status. However, as noted, the bivariate differences described are not necessarily indicative of significant relationships.

Our multivariate analysis fits a logistic model predicting 'resilient child.' The dependent variable is a summary indicator of whether the child considers him/herself generally happy and enjoying school. Prior to the multivariate analysis, we produced a correlation matrix to explore the correlations between each pair of independent variables in order to identify any problems posed by multicollinearity. The highest correlation coefficient was 0.36 (between whether mother is the carer, and whether the mother ever moved away for work since the child was born). As no pairs of independent variables are highly correlated, we include all independent variables in the multivariate model.

The results from the multivariate model are presented in Table 4. We find that, compared to children of non-migrant parents, children of migrant parent(s) are 52 percent more likely to be resilient (very happy in general and always enjoy school). The effect accounts for children's individual and other household characteristics and is significant at the 0.05 level. This finding demonstrates an important positive impact of parental/paternal migration on children's perceptions of their own well-being. However, it is also important to highlight the sensitivity of such a finding to the outcome

TABLE 4
ODDS RATIOS OF INDEPENDENT VARIABLES FROM A LOGIT MODEL
PREDICTING BEING A RESILIENT CHILD

Independent variables	Odds ratio	S.E.	95% confidence interval
Male	0.92	0.19	0.61-1.38
Age	0.99	0.12	0.78-1.26
School performance above average (carer report)	1.02	0.31	0.56-1.86
School performance above average (child report)	1.34	0.30	0.86-2.08
Work to support family	1.10	0.34	0.60-2.03
Father working overseas is very good	1.43	0.41	0.81-2.50
Mother working overseas is very good	1.25	0.28	0.81-1.93
One or both parents is/are migrant(s)	1.52	0.31 *	1.02-2.25
Mother never moved to work since the child was born	1.56	0.47	0.86-2.81
Carer is mentally healthy	1.59	0.38	0.99-2.55
APGAR (child report)	1.19	0.04 ***	1.11-1.27
Have sibling	0.99	0.21	0.65-1.50
Father has secondary+ education	0.77	0.17	0.50-1.17
Mother has secondary+ education	0.78	0.17	0.50-1.20
Medium economic status	0.77	0.18	0.49-1.22
Rich household economic status	1.11	0.28	0.67-1.83
Log likelihood		-297.86	
N		496	

measure used, as well as the geographical context. Jordan and Graham (2012) analyzed CHAMPSEA data for Indonesia, Philippines and Vietnam (not Thailand) to examine the self-reported well-being of children in different types of transnational households (father migrant, mother migrant and both parents migrant) and found that children of migrant fathers and children of migrant mothers were less likely to report being happy or very happy compared to children living with both parents, whereas there were no significant differences in reported school enjoyment between these groups. Combining the two outcome measures for this analysis of the Thai data, we find in contrast that left-behind children in Thailand are more likely to be resilient in terms of their subjective well-being. The only other factor contributing significantly to the positive well-being, or resilience, of the children is if the child sees their family as supportive and functioning well (from the APGAR score). Children who see their family as functioning well are 19 percent more likely to perceive themselves as very happy and always enjoy school. In other words, those who perceive their family is supportive are more likely to be resilient.

The composition of the Thai sample also lends support to the importance of recognizing the context in which international migration occurs. In Thailand, overseas migration of migrant mothers is not as common as that of fathers and definitely less common than in the other South-East Asian study countries (i.e., Philippines, Indonesia, and Vietnam). As noted earlier, the vast majority of children of migrant parents are those of migrant fathers (93 percent). Moreover, the majority of the children have mothers as their main carer, regardless of whether or not they are from migrant (92 percent) or non-migrant families (95 percent). Due to the very small number of mother-migrant families included in the sample, we are not able to test whether our results hold across types of migrant families (father migrant, mother migrant, and both parents migrants). While Thai women are relatively autonomous in terms of mobility, they remain outstandingly dedicated to their motherly role as child carers and are seen as irreplaceable by fathers or other family members.

In this context, where most parental migrants are fathers and mothers remain prominent carers, general views (including those of children) on migrant families are positive. Children do not see the absence of fathers negatively or as problematic as long as mothers are around. Descriptive data from our analysis show that 80 percent of children say that a father working abroad is good or very good, while less than half of them (45 percent) think the same about mothers working abroad. This is also true from the adult's perspective. Descriptive data from the responsible adult in the household survey indicate a high acceptance of fathers working abroad, with high percentages viewing it as good or very good for the child (69 percent) and for the family (64 percent). However, there is a much lower acceptance of mothers working abroad, with 21 percent regarding it as good or very good for children, and 30 percent as good or very good for the family. These gendered norms are also evident in the qualitative responses from community leaders' during group interviews, as well as in in-depth interviews with left-behind mothers. As one of our field interviewers noted in the qualitative study:

... Interviewees perceived working abroad as more positive than negative. It is the advantage of migration that was firstly reported, especially in terms of income generating resulting from remittance. Clearly, remittance from migrants is recognized as a main support for the living of left-behinds including children of migrants. Only a few caregivers expressed concerns on emotional issue of children and their reactions when their parents went away or came back... (CHAMPSEA-Thailand's qualitative fieldwork report)

... In general, households of international migrants are relatively better off and more sufficient in terms of material possessions. Although there are failed migrants, success stories are more evident. The improved economic appearance of migrant households became a motivation for their neighbors. Migrants are treated as role models. Parents expect their children to work overseas and remit. They would try their best for their children to get a job in other countries. Young people look forward to the end of school life and wait for their chance to go abroad... (Report from group interviews with village key informants)

The positive views of transnational households are also related to the remittances sent home by migrant parents. In the case of the Thai sample, most of those working abroad may be considered as successful. Based on household data, all children of migrant fathers lived in transnational households that received remittances from absent fathers. It was also revealed in the group interviews with community leaders that remittances from overseas migrants contribute substantively to community infrastructure improvement such as temple-, school-, and health facility-related projects. This can help to create a positive perception of migrants, as well as of migrant families and their children. Feeling proud of what their migrant parents (in our case, fathers) have done for the community can also contribute to a positive sense of well-being among children.

The degree to which absent parents maintain their relationships with left-behind children might also play a role in preventing negative impacts from parent-child separation. The role of left-behind parents in keeping intact relationships between migrants and their non-migrant family members may also be important. In another paper (Jampaklay et al., 2011) using the same data set and focusing on transnational fathering, we point out that migrant fathers do keep close contact with their family back home. The paper also made clear that left-behind mothers play a crucial role in reinforcing transnational relationships between fathers and their non-migrant children.

Concluding Remarks

Systematic research that includes children's views on parental migration has been insufficient to date. Using children's own views, our analysis investigates data from CHAMPSEA Thailand, the first comprehensive study that assesses the impact of parental overseas migration on children's health and well-being in the context of Thailand. The research project is one of the few studies that provide space for children, both of migrant and non-migrant parents, to voice their views on their own well-being, their family, and

how they perceive parents' working abroad. In this analysis, we combine children's own assessments of their general happiness and enjoyment in school as a proxy for their subjective well-being and resilience. Compared to children of non-migrant parents, those of migrant parents are more likely to be resilient. Although this evidence points to a positive impact of parental migration on the well-being of left-behind children, it must be interpreted with caution. As mentioned, our measurement of children's resilience is only a proxy, based on self-reports from 9 to 11-year-old children on two aspects of well-being, general happiness and school enjoyment. Thus, our outcome may not fully capture the essence of children's resilience. In addition, in Thailand, international migrants are largely fathers, while the main carer is almost always the mother. Thus, our findings indicate that children benefit most when they see their family as functioning well, and when their fathers work overseas and their mothers are the main carers.

Our study underscores the importance of taking into account children's own perceptions in researching the well-being of those left-behind. Comparative studies that take into account the context are also important so we know to what extent our understanding can be generalized. The findings presented in this article refer to migration in the context of Thailand, where international migration is predominantly undertaken by fathers and childcare remains in mothers' hands. The results corroborate traditional gendered norms with the role of fathers as breadwinners. At the same time, the negative impact of mothers' migration during their children's lifetime signals the crucial role of the mother as the main caregiver, which in Thai culture, is not easily replaceable by the extended family. In this father-migrant oriented context, attitudes towards international migration, especially paternal migration, are generally positive. This may help explain the positive perception of children towards the migration of their fathers as well as their own well-being.

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Alcohol Use among Very Early Adolescents in Vietnam: What Difference Does Parental Migration Make?*

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Little is known about the patterns of alcohol use among adolescents and the transmission of alcohol use behaviors from parents to children, including the passage into responsible and problem drinking, in the developing world. The following paper uses primary data from the Child Health and Migrant Parents in South-East Asia (CHAMPSEA) Project for older children aged 9, 10 and 11 to examine the prevalence (16.2 percent) and correlates of alcohol use initiation including parental migration status, caregiving arrangements and exposure to environmental alcohol use (family and friends) in Vietnam. Contrary to expectations, there is no observed migrant 'deficit.' There is some indication that early adolescents in the care of their grandparents are less likely to have a history of experimentation with alcohol use, although it is fully attenuated after controlling for other factors. Peer use is the most

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powerful explanatory measure of early adolescent drinking, with early adolescents more than five times as likely to have ever drunk alcohol if their friends drink also, and as expected, there is a strong child gender difference with girls much less likely to have a history of alcohol use.

"A man without alcohol is like a flag without wind"

- Popular Vietnamese saying

Introduction

Little is known about the patterns of alcohol use among adolescents and the transmission of alcohol use behaviors from parents to children, including the passage into responsible and problem drinking, in the developing world. In recent years, attention has focused on rapidly increasing rates of adult alcohol use and the global burden of disease associated with the use of alcohol and other substances, with alcohol as the first most important risk factor for ill-health and premature death in low mortality, lower income countries (Anderson, 2006). As more information becomes available about general patterns of alcohol use in diverse cultures, concern about adolescent alcohol use is rising as well, and with good reason evidently. Recent research from South Korea illustrates more than a two-fold increase from 1998 to 2005 to 10.1 percent among adolescents and young adults (Hong et al., 2011). Many countries in the Asian region are lower- and middle-income countries where sophisticated data collection and monitoring systems are only just emerging, and thus there is little extant research about patterns of adolescent alcohol use and how associated risk and protective factors in the region are similar to, or differ from, other cultural contexts.

Vietnam is geographically and culturally at the crossroads of East and South-East Asia, and offers an interesting site for examining different cultural influences. In regards to risk behaviors, it is very similar in many ways to other regional neighbors with, for example, higher rates of tobacco and alcohol use among men compared to women (Giang et al., 2008; Pham et al., 2010). There is, however, growing concern about changes in tobacco and alcohol use especially among young adults (Nguyen et al., 2012; Pham et al., 2010; Tho et al., 2007). The article uses primary data from the Child Health and Migrant Parents in South-East Asia (CHAMPSEA) Project for children ages 9, 10 and 11 to examine the prevalence and correlates of alcohol use including parental migration status and exposure to familial alcohol use in Vietnam. We refer to relevant literature from Vietnam, South-East and East Asia when available, and make reference to research on worldwide adolescent populations when applicable to develop the theoretical frame-

work. This strategy allows for us to theorize from the more well-developed frameworks of risk and protection (general adolescent populations in high income countries) to the less developed (in this case Vietnamese early adolescent populations) while utilizing more local knowledge from the region to contextualize the general population frameworks.

Background and Motivation

Prevalence of Adolescent Alcohol Use in Vietnam and the Region

There is limited research on alcohol use of young people in Vietnam, and this is especially true of early adolescents. Three recent studies provide some important information about the prevalence of adolescent alcohol use in Vietnam. The first is the Survey Assessment of Vietnamese Youth (SAVY), a national probability survey of adolescents and young adults conducted in 2003 and 2008. The SAVY is based on a survey of 7,584 youth aged 14-25 years. The most recent estimates from Wave 2 illustrate trends in adolescent alcohol use: among 14 to 17-year-olds, 47.5 percent have ever finished an alcoholic drink while 30.8 percent report ever having been drunk (Ministry of Health et al., 2010). Although not disaggregated by age, gender differences are noticeable, with 79.9 percent of young men aged 14 to 25 ever finishing a drink, and 60.5 percent ever drunk compared to 36.5 percent and 22 percent for young women across all ages. Another recent study conducted in Nha Trang province in central coastal Vietnam provides estimates of ever drinking at 78 percent male, 56 percent female based on a sample of 880 youth aged 16 to 24 (Kaljee et al., 2011). Results from a comparative study within East Asia (including Hanoi, Shanghai, Taipei) indicate that alcohol use is prevalent among male adolescents and young adults aged 15-24, with over one-third of the Hanoi sample (N=4,550) currently drinking alcohol (Nguyen et al., 2012). There are also significant differences for male adolescents aged 15-19 between local urban residents (29 percent) compared to migrants into Hanoi from rural (45 percent) and other urban areas (43 percent). With some relevance for the current study, the higher risk of drinking alcohol observed in youth who migrate into Hanoi is fully accounted for after controlling for other factors including age, employment status, and depression, as well as peer drinking. Our literature review provided no evidence of any research on the alcohol use of early adolescents younger than age 14 in Vietnam or adolescents of any ages who are children of migrants.

Some studies from other countries in the region have included early adolescents, and offer potential contextualization for Vietnam. Recent research, for example in Thailand, suggests much lower rates of alcohol use

among a large national sample of young people (N=50,033) with the overall rate of ever using alcohol at 28 percent among students in grades 7, 9, 11 and second-year vocational school (Sam-angsri et al., 2010). Particularly relevant to the current study based on age comparability are the prevalence rates among the 7th grade students (average age 12 years) for ever drinking alcohol of 15 percent, and for current alcohol use within the last 30 days of seven percent. The gender differences between ever and current alcohol use (aggregated across all ages) in Thailand are similar (although the gender difference is not as marked) to those in Vietnam with adolescent boys (37 percent ever drink, 24 percent current drink) more likely than girls (20 percent ever drink, eight percent current drink) to report alcohol use. Of additional relevance to our study, a number of Thai adolescents who reported ever drinking stated that their age of initiation was less than 11 years of age.

Evidence from China is also potentially relevant to the Vietnam case primarily because of the shared cultural influence of Confucianism. This shared heritage is particularly relevant to North Vietnam where the CHAMPSEA data were collected. A study of adolescents in Beijing provides estimates for ever drinking and current drinking of 54 percent and 19 percent, respectively, among 6th grade students (combined boys and girls) (Li et al., 1996). Across the full sample (N=1,040) of 6th, 8th and 10th grade students, similar to Vietnam, the rates of male use were higher overall. While this study is more than 15 years old, the economic conditions in the capital city of China at that time may be more applicable to Vietnam in the late 2000s, and thus are considered relevant. One explanation offered for higher rates of drinking is greater exposure to western influences as evidenced, in particular, by greater consumption of beer which is a non-indigenous alcoholic beverage (Shell et al., 2010). If this is indeed a precipitating influence, similar logic could be applied to the CHAMPSEA data, with a greater exposure to foreign influences evident among children living in transnational households (THs), an explanation that build off more general theories of modernization which suggest changing family and social norms in response to wider societal transformation (Shell, et al., 2010).

A more recent Chinese study in a southern Chinese province, Guangdong, shows higher rates of alcohol consumption than the previous study among middle and secondary school students. Seventy percent of boys and 43 percent of girls reported ever using alcohol among this sample of 1,536 adolescents with an average age of 14 years old (Gao et al., 2010). Rates of current alcohol use were 33 percent and 13 percent for boys and girls, respectively. Of particular relevance to CHAMPSEA, Gao et al. (2010) compare adolescents with one or more migrant parents to adolescents living with both parents. They conclude that there are significant differences

between the two groups, in particular for adolescent girls living in migrant parent households who are at greater risk of binge drinking compared to those in non-migrant parent households.

Exposure to Alcohol Use among Peers and Family

Peer involvement in risk behaviors, including alcohol use, is strongly related to adolescent involvement (e.g., Nash et al., 2005; Pemberton et al., 2008). Results from the published report on the 2003 SAVY in Vietnam illustrate the prevalence of peer pressure to drink for male adolescents, with 15 percent of young men aged 14-17 strongly endorsing questions about experiences of peer pressure, rising to 30 percent for ages 18-21 (Ministry of Health et al., 2005), and the significance of peer alcohol use for adolescent and young adult current drinking is reinforced by the recent study of health risk behavior in Hanoi (Nguyen et al., 2012). A contemporary review of literature on alcohol use among South Korean adolescents highlights the significant influence of peer behavior (Hong et al., 2011). Hong et al. argue that the predominant Confucian values of group harmony and interdependence are likely to bolster the impact of peer behaviors among adolescents in South Korea.

Parental attitudes about alcohol use, including parental personal consumption, are, in general, consistently related to adolescent alcohol use across the developed world (Chalder et al., 2006; Hong et al., 2011; Lee and Cranford, 2008; Pemberton et al., 2008; Velleman, 1999). Interestingly, while the initial findings from the 2003 SAVY (Ministry of Health et al., 2005) in Vietnam indicated that 16.7 percent of adolescents reported paternal drinking problems and/or alcohol addiction, which suggested that a sizeable proportion of young Vietnamese might be affected by parental alcohol misuse, a more recent publication using the 2005 and 2008 SAVY (Nguyen et al., 2010) concludes that there is no statistically significant relationship between parental drinking and the drinking behavior of children. This is in contrast to research from Australia, US, UK, the Netherlands and within East Asia, South Korea, demonstrating this relationship with particular risks associated with problem drinking of parents for the consumption patterns of the next generation (Chalder et al., 2006; Hong et al., 2011; Lee and Cranford, 2008; Pemberton et al., 2008; Velleman, 1999).

Impacts of Parental Absence

Some studies and policymakers have articulated a concern about a potential deficit in the supervision of children and adolescents resulting in increased engagement in risk behaviors when parents migrate away for

work (ECMI/AOS-Manila et al., 2004). Very little research has, however, attempted to explain the relationship between parental out-migration and adolescent risk behaviors. The argument of a link between parent migration and child risk behavior is in line with research on the importance of *parental monitoring or supervision* for limiting risk behavior in young people (e.g., Hemovich et al., 2011; Nash et al., 2005; Ryan et al., 2010; van den Eijnden et al., 2011). Parental monitoring is a proven significant protective factor for adolescent risk behavior.

It is maternal migration in the South-East Asia that generally sparks worry about children receiving adequate nurturance, while concerns about paternal migration focus on children receiving adequate discipline (Battistella, 2007; McKay, 2007). In this light, parental absence, and in particular paternal absence, may result in increased risk behaviors because of a deficit in monitoring and discipline. However, the disproportionately high use of alcohol by men and gender role socialization in the Vietnamese context could exert the opposite influence with children, especially boys in father migrant households experiencing decreased opportunity of socialization into alcohol use. As such, understanding the relationship between migration, gender role models and alcohol initiation in early adolescence is an important public health issue for Vietnam, and other countries with rising concerns about adolescent and young adult risky alcohol use.

Given the identified research gap in this area, the following exploratory research questions are examined: (1) Are some of the commonly examined measures of early adolescent alcohol use applicable to the Vietnamese context?; (2) How are parental migration and caregiving arrangements associated with the risk of early adolescent drinking?

Study Data and Methods

CHAMPSEA is a mixed-method cross-sectional research program investigating the impacts of parental migration on children left behind in Indonesia, the Philippines, Thailand and Vietnam. The survey data analyzed here are selected from Phase 1 of the study and were collected during 2008 in two provinces in the north of Vietnam (total Vietnamese country sample N=1,012). Sampling was conducted in three stages. First, two provinces with high levels of international out-migration were identified by migration researchers. Second, communities were screened to identify eligible households and eligible households were those with a child in a specified age range where, at the time of the survey, either one or both parents were transnational migrants (transnational households or THs), or where both parents were present in the household ('usually resident' or non-migrant households). Third, a flexible quota sampling design was used to recruit

TABLE 1
ALCOHOL USE ACROSS THE CHAMPSEA STUDY COUNTRIES
FOR CHILDREN AGED 9 TO 11

	Indonesia	Philippines	Thailand	Vietnam
Have you ever had a drink of beer, wine, or liquor—not just a sip or a taste of someone else’s drink—more than 2 or 3 times in your life?	0.2	5.74	4.31	16.87 ***
How often have you had a drink of beer, wine, or liquor in the last 30 days? +	none	2.46	0.98	5.22 ***
Do you ever drink beer, wine, or liquor when you are not with your parents or other adults in your family?^	none	100	77.27	39.29 ***
Do any of your friends drink beer, wine, or liquor?	7.33	14.17	23.77	20.28 ***
Does anyone in your family drink beer, wine, or liquor ?	3.56	74.54	85.27	82.73 ***
N	505	488	510	498

NOTES: Number for ‘current’ and ‘ever drink without family’ take proportion of ever drink
*** Chi-square tests significant at $p<.001$
+ Chi-square excludes Indonesia
^ Chi-square excludes Indonesia because of nil value and the Philippines because of 100% value

households for two cohorts of children, 3 to 5 (n= 501) and 9 to 11 (n=511) years old. To qualify as a transnational household, at least one parent must have been absent and working abroad for a continuous period of at least the six months prior to the survey. Similarly, a non-migrant household was taken as one in which both parents had been living at the same address as the qualifying child on most nights over the previous six months. The study design and sampling methods are described in greater detail in Graham and Yeoh (this volume).

Table 1 provides the standard set of questions about alcohol use in the CHAMPSEA older child questionnaire and the proportion of children answering ‘yes’ across the four study countries. Chi-square tests highlight how the rate of ever using alcohol is highest in Vietnam compared to the other three CHAMPSEA countries, and this was the decisive factor for exploring the relationship further within the Vietnamese context. While the Vietnamese children have the highest rate of ever drinking alcohol,

the proportion of children who report ever drinking alcohol without a family member is highest for children in the Philippines (100 percent) and Thailand (77.3 percent), indicating an area deserving closer examination in future research. The distribution of the data actually present a compelling incentive to explore whether the impact of migration, in particular paternal migration in Vietnam, could be detrimental to the development of responsible drinking in a cultural context where early adolescent alcohol use occurs within the family context. Specifically, if the absence of fathers results in greater experimentation with peers at an earlier age, this could translate into riskier behavior as the children move into later adolescent and young adulthood.

While current alcohol use is generally considered a better indicator of adolescent and young adult risk profile, we selected lifetime use because of the very low rates of current use in Vietnam, which is common for the early adolescent age group (Habib et al., 2010). Any use of alcohol (as defined by 'not just a sip or taste...more than 2 or 3 times') at early adolescent ages is generally considered a significant risk factor.

A combined measure of parental migration status and the child's primary carer was created to capture the current family residential and caregiving arrangements. The majority of the non-migrant households (82 percent) have mother carers, and the combined measure was used to address issues of multi-collinearity between the separate measures. Measures of whether the child's peers drink and whether family members drink are also included. Measures of child gender and age are included, as are measures for socioeconomic status (SES) (father's completed education and household wealth). The measure of father's completed education also accounts for historical family SES which may be able to account for some portion of unmeasured selection factors likely to influence which households are more likely to migrate compared to others. A measure of whether the index child (IC) has an older sibling is included as this is a recognized risk factor for early experimentation with drinking alcohol (Fagan and Najman, 2005). Two indicators of family process are included, a binary measure for good family functioning based on the composite child-reported Family APGAR (which stands for Adaptability, Partnership, Growth, Affection and Resolve - the first five parameters of family functioning) score and a binary indicator of whether the family regularly argues, which is recoded from the five-category original measure.

List-wise case deletion was used to account for missing data as the percentage missing was quite low (2.3 percent) for the subsample, resulting in the final analytic sample $n = 498$. This method was considered the best choice compared to other methods, such as multiple imputation, because of the low overall percentage of missing data and additional error introduced

after implementing imputation procedures. Tests of bivariate relationships between key independent variables and the dependent variable, ever drinking alcohol, were conducted, followed by fitting hierarchical logistic regression models to examine the contribution of the three substantive blocks of variables: 1) migrant-carer status; 2) risk factors for alcohol use; 3) child, household and other control variables to explain differences in self-report of alcohol drinking initiation. The bivariate comparisons between the dependent variable ever drinking and all of the independent and control variables were computed using chi-square tests (*see* Table 2), followed by a series of hierarchical logistic regression models. Table 3 presents the odds ratios (OR) and 95 percent Confidence Intervals (CI) for hierarchical logistic regression models with migrant-carer status first (Model 1), followed by indicators of alcohol use in the child's environment (Model 2), and finally, a block of child and family indicators (Model 3). Model 3 also controls for province of residence.

Findings

Before turning to the multivariate results, it is worth highlighting the key findings from the bivariate comparisons. In general, there are only a few significant bivariate results: child's gender, family functioning and alcohol use in the peer and family environments. While the chi-square test is not significant for the migrant-carer status, the *p*-value is less than 0.10 providing some indication of a relationship with lifetime use of alcohol. The most prominent correlations are found between ever drink alcohol and alcohol use among friends, with a correlation of 0.29. A correlation of this magnitude is considered moderate, but it does not necessitate exclusion from further analysis.

Multivariate Results

The first set of models (Model 1, Table 3) enters the measure of parental migration status and caregiving arrangement. There is a significant negative association with child alcohol use for children living in transnational households with a non-parental or other carer (TH-other carer) (OR=0.34, *p*<.05). The overall percentage of TH-other carer is 12.8 percent, and the majority of these carers are grandmothers (over 80 percent). There is also a marginally significant negative association with child alcohol use for children living in transnational households with a father (TH-father carer) (OR=0.60, *p*<.10). This does not support the proposition about risky behavior for households with mother migrants, and it does provide some support for the proposition that having the father present may encourage their

TABLE 2
MEASURES INCLUDED IN THE ANALYSIS (N=498)

Variables		All Children	% Ever Drink
Dependent Variable			
Ever use alcohol	Binary indicator from original question: 'Have you ever had a drink of beer, wine, or liquor - not just a sip or a taste of someone else's drink - more than 2 or 3 times in your life' 0=no 1=yes	16.87	-
Independent Variables			
Child is girl	Index child 0=boy 1=girl, from Household Roster	54.22	32.14 ***
Child's age	Categorical measure of index child's completed years of age where possible values are		
	9	41.97	20.57
	10	30.92	13.64
	11	27.11	14.81
Father's education	Binary variable created from years of completed schooling where		
	1=primary or less 2=lower secondary or higher	72.89 27.11	16.80 17.04
Household wealth	Categorical measure that ranks households based on level of wealth		
	1=low wealth	39.76	16.67
	2=average wealth	40.96	19.61
	3=high wealth	19.28	11.46
	Note: low wealth combines the 1st and 2nd quintiles of wealth index; average combines the 3rd and 4th while high represents those households in the 5th quintile only		
Older sibling	0=no 1=yes, from Household Roster	47.79	50.00
IC family functioning good	A binary indicator created from the summed total of five standard items for family functioning based on the APGAR measure where 0=no 1=yes	57.23	46.43 *
Family arguments	A binary indicator created from the 5 category question, 'Do people in your family have serious arguments?' 0=no 1=yes (top two categories)		
	1=never; 2=hardly ever; 3=some of the time; 4=almost always; 5=always	27.91	30.95
Family alcohol use	Does anyone in your family drink beer, wine or liquor? 0=no 1=yes	82.73	91.67 *
Friends alcohol use	Do any of your friends drink beer, wine or liquor? 0=no 1=yes	20.28	45.24 ***
Migrant-carer status	Combined measure of a household's migration status and caregiving arrangements where		
	0=Non-migrant household	43.98	21.00 +
	1=TH-mother carer (father migrant)	15.26	18.42
	2=TH-father carer (mother migrant)	26.31	13.74
	3=TH-other carer (father or mother is migrant and carer is other than parent)	14.46	8.33

NOTE: Chi-square tests significant at ***p<.001 **p<.01 *p<.05 +p<.1

TABLE 3
EVER DRINK ALCOHOL, HIERARCHICAL LOGISTIC REGRESSION MODELS (N=498)

	OR	95%	CI	OR	95%	CI	OR	95%	CI
Migrant Carer Status									
Non-migrant household		-			-			-	
TH-mother carer	0.85	0.44	1.65	1.21	0.60	2.47	1.09	0.52	2.29
TH-father carer	0.60	0.33	1.09 +	0.62	0.33	1.15	0.53	0.26	1.07 +
TH-other carer	0.34	0.14	0.84 *	0.44	0.17	1.10 +	0.39	0.15	1.04 +
Family alcohol use				2.21	0.94	5.19 +	2.09	0.87	5.02
Friends alcohol use				4.26	2.54	7.16 ***	4.92	2.77	8.75 ***
Child is girl							0.29	0.17	0.50 ***
Father's education									
Primary or less								---	
More than primary							0.97	0.53	1.77
Household wealth									
Low								---	
Average							1.28	0.71	2.29
High							0.71	0.31	1.63
Older sibling							1.14	0.68	1.94
Family functioning good							0.66	0.38	1.12
Family arguments							0.95	0.53	1.70
Pseudo R2	0.02			0.10					
Log likelihood	-221.96			-204.31					-185.74

NOTE: Model 3 controls for child age and province
***p<.001 **p<.01 *p<.05 +p<.1

children to drink, but perhaps responsibly, and not more than 'a taste or sip.' Further research specifically focusing on family socialization of alcohol use would be needed to clarify such propositions.

The second set of models (Model 2, Table 3) brings in environmental alcohol use -- of friends and family. After controlling for family and peer use of alcohol, the significant association between alcohol use and living in a transnational household with a non-parental or other carer (grandmothers) is marginally significant (0.44, $p < .10$). The strong association between peer use and child use is the most significant story in Model 2, children with friends who drink are more than four times as likely to have experimented with drinking themselves (OR=4.26, $p < .001$). The strength of this finding is at par with other research in Vietnam for older adolescents (Nguyen et al., 2010; Nguyen et al., 2012). Of a more minor note is the marginally significant positive association between family alcohol use and child use (OR=2.21, $p < .10$).

The final set of models (Model 3, Table 3) brings in the child, family and household characteristics, including SES as well as household structure and family process measures that are associated with risk behavior in early adolescents in other cultural contexts (e.g., Habib et al., 2010; Hemovich et al., 2011; Hong et al., 2011; Kaljee et al., 2011). As expected there is a strong child gender effect, with girls much less likely to report every drinking alcohol (OR=0.29, $p < .001$). There are no significant differences for either of the measures of SES, father's education or household wealth, nor for any of the family structure (older sibling in household) or family process (family functioning and family conflict) measures. In other cultural contexts outside of East Asia, having an older sibling increases the likelihood of exposure to alcohol initiation (Nash et al., 2005), although this association is predicated on the older sibling's own involvement in risky behavior. This information is not available for the current study. What about the initial blocks of variables? The strength of the association between peer use and child's own use is increased with children who have friends experimenting with drinking almost five times as likely to have experimented themselves (OR=4.92, $p < .001$). The pattern of relationships between migration status and caregiving arrangements is quite similar, with marginally significant associations between living in a transnational household with either a father (OR=0.53, $p < .10$) or non-parental or other (grandmother) carer (OR=0.39, $p < .10$) less likely to report alcohol consumption than those living with both parents at home. Model 3 also controls for child age (9, 10 or 11) and province of residence.

Discussion

This paper offers a number of important insights into the area of early adolescent alcohol use in Vietnam, a lower-middle income country that is engaged in a rapid period of modernization. In Vietnam, as in many other developing countries, household migration is a common event during the life course period of family reproduction. The motivation for the paper was initiated by the observation that close to 17 percent of Vietnamese children aged 9, 10, and 11—school-aged early adolescents—in the CHAMPSEA Project reported ever having ‘a drink of beer, wine, or liquor—not just a sip or a taste of someone else’s drink—more than 2 or 3 times in your life?.’ A lack of information about early adolescent alcohol initiation and use led us to draw on the related literature for older adolescents in Vietnam and the region, and occasionally further afield when there were gaps in regional knowledge to build up a case for the conceptualization. Our aims were modest (1) to establish whether some of the common independent variables of early adolescent alcohol use are applicable to the Vietnamese context; and (2) to investigate whether and how parental migration status and caregiving arrangements are associated with the risk of early adolescent drinking.

The Importance of Peers

Peer use is a powerful independent influence on early adolescent drinking in this context, with children more than five times as likely to have ever drunk alcohol if their friends drink also. While it is not possible to discern the direction of causality from the cross-sectional data, it is nonetheless, troubling that almost 17 percent of this young age group is engaging in risk behavior—alcohol use—that can have long-term health and well-being consequences. This finding serves as a complement to recent findings about the high prevalence of peer pressure to drink from the Survey Assessment of Vietnamese Youth that studied older adolescents and young adults (Ministry of Health et al., 2005, 2010) as well as the findings from Nguyen et. al. (2012) that show an increased likelihood of current drinking for older adolescents and young adults (OR=2.2) with peers who also drink alcohol. The confirmation of the significant relationship between peers and adolescent drinking across these diverse studies highlights an area that deserves greater attention in public health policy within Vietnam.

The Importance of Who is Providing the Care

Of particular interest to our inquiry here was the relationship between alcohol use and parental migration/caregiving arrangements. The lack of

previous research led us to question --might children of mother migrants, lacking the nurturance of the mother, be at particular risk? Might children of migrant fathers, lacking the discipline of the father, be at risk? Additionally, we queried whether the influence of Confucian values and gendered socialization into manhood might operate as a protective factor when fathers socialize their sons into culturally appropriate alcohol use. In the context of migration, if a father is absent, this could then result in a deficit to the usual socialization process. We found little evidence of a clear gendered migrant parent effect. We used non-migrant households as the comparison group, taking into consideration that these household are less likely to have a 'monitoring deficit' with both mothers and fathers in physical residence. After controlling for environmental alcohol use of peers and family, the impact of parental migration and caregiving arrangement remains only marginally significant. Prior to controlling for environmental alcohol use of peers and family, we find that it is children in migrant parent households with non-parental or other carers who are the least likely to report lifetime use of alcohol across all of the models. While the distribution of other carers includes grandmothers, grandfathers, older siblings, and aunts, the majority of these other carers are paternal grandmothers (1 in 2), reflecting the strong patrilocal heritage of North Vietnam (Frankenberg et al., 2002). This provides some evidence that the nature of substitute care arrangements, in particular the care provided by grandmothers, is an important contributing factor to limiting early adolescent alcohol initiation. In studies based in other countries there are indications that grandparents may enforce stricter rules on child behavior compared to the child's parents, which may act as a deterrent for risk behavior (Yorgason et al., 2011). While this may be beneficial in the short run, some studies suggest that it may backfire during later adolescence when rebellion against supervision and monitoring is more likely to occur (Pittman, 2007).

Additionally, there is the suggestion that children in mother migrant-father carer households (TH-father carer) are less likely to have experimented with alcohol. What might explain this? One possible explanation could be related to the household residential patterns. The overall rate of co-residence with grandparents across the study sample is 33 percent. The distribution of three-generation households is unbalanced, with the greatest number found in the transnational households with other carers (37 percent) followed by non-migrant households (34 percent). Children living in a household with a migrant parent and a parental carer are the least likely to have a live-in grandparent (both less than 20 percent). The study country field workers noted that in many instances, grandparents may reside in close proximity to the index child, although the family does not include them within their official household. It is possible that when the mother is an international

migrant the father may substitute his care with grandparent care although not view it as primary. Another possible explanation is that these two-generation households reflect a more 'modern' family configuration that could indicate the adoption of new ideas from outside cultural influences, including changes in thinking about child initiation into alcohol use. One of the changes attributed to migration is the transmission of different cultural norms to the family in the origin location (Adler and Gielen, 2003). Further investigation of this possibility would require more detailed data collection about the extended family residential patterns as well as changing community and family cultural norms on alcohol use.

Concluding Remarks

The current study provides new information about the prevalence rates of alcohol use initiation for early adolescents (16.7 percent) in two northern Vietnam provinces which can be used as initial benchmarks. There are limitations to the generalizability of the findings; in particular the two provinces cannot be considered representative of the Vietnamese population, especially given the selection criteria to choose provinces with high levels of international labor migration. The study examined the significance of common independent variables (child, family, household characteristics) in explaining lifetime alcohol use in the Vietnamese context, and has also focused particularly on understanding the relationship between parental monitoring—as measured by parental migration status and household caregiving arrangements—and alcohol use. While the effect of decreased parental monitoring is implicit in concerns expressed in regional press and selected academic research (Parreñas, 2003), this study is the first, to our knowledge, to apply the framework of parental (including non-parental caregiving) monitoring to the transnational household in the region.

Concern about how the absence of one or both parents may result in a monitoring deficit thus leading to an increase in the likelihood of adolescent alcohol use, echoes concern about parental monitoring deficits in single parent households. Indeed, recent research by Hemovich et al., (2011) reaffirms the link between single parent households and decreased parental monitoring as being associated with increased alcohol and drug use in a US national sample of 4,173 adolescents. While the conditions of the transnational household are not directly comparable to single parent households which have experienced dissolution of the parental relationship, changes in the physical structure of the household do alter caregiving patterns and parental monitoring. The results from CHAMPSEA in Vietnam do not provide any conclusive evidence about a positive or negative impact of parental migration and household caregiving arrangements, although

greater understanding of why it is children in the care of grandmothers who are least likely to drink reflects a shift in cultural norms for the current generation of parents compared to their own families of origin. The National Longitudinal Study of Adolescent Health (Add Health) conducted in the US starting in 1994 for grades 7 to 12, oversampled ethnic and racial minorities, and research highlights significant differences between different Asian immigrant subgroups for alcohol use (Choi, 2008). Of particular interest here is the significantly lower rate of lifetime use of alcohol among Vietnamese American adolescents (mean age 16 for in-home sample) at 40 compared to all other subgroups, which include South Asian, Chinese, South Korean, Japanese and Filipino adolescents, as well as unspecified others. While family migration to the U.S. is not directly comparable to split-household contract labor migration from Vietnam, the findings provide some indication of lower consumption among co-ethnic group members of an earlier generation. Whether there are unobserved influences related to differences in birth cohorts or if there are certain characteristics of inter-generational relationships influencing the observed differences cannot be determined at present.

Similar to studies with older adolescents in the region, after controlling for other factors, the key finding is the significant risk factor of peer engagement in alcohol use to the incidence of risk behavior. As the children in this sample age into middle adolescence, greater understanding of the risk and protection profiles will become possible if these children follow the trends of adolescent drinking observed in other Vietnamese studies. The current study provides further evidence that public health surveillance and intervention should consider the rising salience of peer relationships in the modern age of Vietnam. The significant influence of peers may reflect changing cultural values away from the traditional family sphere. Developing greater understanding of the adolescent transition to adulthood will rely on longitudinal data collection to track pathways into and out of adolescent risk behaviors in Vietnam and other lower- and middle-income countries.

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Securing a Better Living Environment for Left-Behind Children: Implications and Challenges for Policies

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Migration is an increasingly significant driver of transformations in family configurations and caregiving practices as well as living arrangements. The sustainability of geographically-split family formations is dependent on several factors, including the presence and strength of care support networks among migrants and their left-behind families, access to communication infrastructure and the stability of the families' financial resources. Drawing on both a selective review of relevant academic literature as well as key findings from the CHAMPSEA Project, the article first examines the effects of these three factors on the well-being of migrants' left-behind family members, especially children. The article also considers major implications of the project's findings, as well as possible challenges for migration and development policies. One area of concern for migration and development policy arising from our research findings is the need to provide better support for left-behind caregivers or carers who are substituting for the absent migrant

in childcare and domestic work but who may also need care and support themselves. Another area relates to the need to improve communication infrastructure to help migrants and their families maintain their relationships across transnational spaces; while a third lies with the importance of minimizing migrant families' economic stress stemming from the cycle of debts resulting from exorbitant broker fees and the mismanagement of remittances. By acknowledging both the social and economic costs of international labor migration on families, governments of labor-sending countries can create a more effective legal and institutional framework as well as design suitable supporting mechanisms for left-behind families. There is then a stronger possibility that migration can become a sustainable development strategy for transnational families in South-East Asia.

*Introduction*¹

Migration is often a family livelihood project that affects both the migrant and the left-behind family. In the absence of key family members, families left at home will unavoidably experience some degree of "displacement, disruptions and changes in caregiving arrangements" (ECMI/AOS-Manila et al., 2004:61). More importantly, the changes stemming from such absences may have varying impacts – often presented negatively by media reports and studies conducted by various scholars and non-governmental organizations (NGOs) – on the overall well-being of left-behind communities, especially vulnerable persons such as elderly grandparents and young children. For instance, several sources have mostly described left-behind children – particularly those with migrant mothers – as suffering from psychological and emotional stress, being more susceptible to deviant behavior and criminal offences, or expressing feelings of abandonment or resentment at being left behind, while the elderly are portrayed as shouldering heavier burdens and/or abandoned.² Though many findings also show that migration generates substantial economic resources that contribute to left-behind families' improved access to healthcare and education, a salient observation that emerges is that the social costs of international labor migration are equally significant and cannot be ignored.

¹ An earlier version of this article was presented at the fourth meeting at the Global Forum on Migration and Development (GFMD) - Alliances for Migration and Human Development: Shared Prosperity, Shared Responsibility in Mexico in 2010.

² For more information on some of the studies or reviews conducted for/by these organizations, see for example Bryant (2005), Cheianu-Andrei et al. (2011), D'Emilio et al. (2007), de la Garza (2010), Jespersen (2006), Save the Children (2006), Settles et al. (2009), Tobin (2008) and Whitehead and Hashim (2005).

In this context, this article focuses on examining three influencing factors, namely familial care and support networks, communication infrastructure and the state of families' finances, that may affect both migrants' and their family members' well-being. Focusing on each factor in turn, the article selectively reviews existing findings relating to left-behind Asian³ families of low-waged international migrants vis-à-vis the findings from the CHAMPSEA⁴ Project to illustrate the situations in the four countries of Indonesia, Thailand, the Philippines and Vietnam. The major implications and challenges of these findings for migration and development policies are discussed as a prelude to possible policy recommendations to strengthen the resilience of transnational families in the South-East Asian context.

Care Arrangements and Support Networks

Upon the migrant's departure, the remaining family members in the countries of origin often need to reorganize themselves or make rather significant adjustments of varying degrees. Several possible scenarios and care models may emerge depending on who migrates. When fathers migrate, the family's caregiving arrangement is found to remain fairly stable with mothers continuing in their roles as caregivers. Left-behind Filipino women, for example, juggle the tasks of taking over their migrant husbands' roles, caring for their children and successfully preserving their existing nuclear household structure (Battistella and Conaco, 1998; Parreñas, 2005a; ECMI/AOS-Manila et al., 2004). While left-behind women found themselves taking on a wider range of roles and responsibilities – often translated into heavier workloads and additional stresses – they may also become more autonomous and involved in decision-making within the family and community over land issues, children's education and household finances.⁵ Generally, women in the extant literature are revealed to have gained

³ Though the geopolitical term of 'Asia' is notably problematic, it is mainly used here to reflect the larger political region wherein CHAMPSEA's project sites are located. To sharpen its focus solely on the discussion of the three factors within this region, this article is thus unable to review the larger body of literature on left-behind families particularly those within the Americas.

⁴ CHAMPSEA is a cross-sectional mixed-method research program examining the impacts of parental migration on children under 12 years of age left behind in Indonesia, the Philippines, Thailand and Vietnam. Using both quantitative and qualitative methodologies, and over a span of two years, the study hopes to compare findings of some 4,000 migrant and non-migrant households across these countries with varying migration histories. The project was supported by the Wellcome Trust, UK [GR079946/B/06/Z], [GR079946/Z/O6/Z].

⁵ See reviews by Asis (2003), Castro (2002), Donnan and Werbner (1991), Dwiyanto and Keban (1997), Gardner (1995), Hadi (1999, 2001), Hugo (2000), Russell (1986) and Smith-Estelle and Gruskin (2003).

greater self-confidence from being more actively involved in decision-making, experiencing an improvement in their socioeconomic status after their husband's migration (Hadi, 1999; 2001). On the flip side, studies have also shown that male migration led to more financial hardships for women as well as difficulties with disciplining their children, lower access to food, and increased loneliness and isolation.⁶

With the increasing feminization of labor migration in the region, studies on the gender impact of female migration have also emerged. Overall, studies show a more diversified model of care when mothers migrate; men left behind by migrant spouses do take on *more* caregiving roles but appear to do so with the help of older children and /or other female relatives. Though left-behind fathers in Bangladesh, Indonesia, the Philippines and Sri Lanka are shown to have become more involved in the household, the change is not always sustained nor continued after the women return (Afsar, 2005; Chantavanich, 2001; Hugo, 2005; Parreñas, 2005a). Filipino mother-migrants continue to maintain close contact with their children, bearing most of the responsibilities for childcare and money matters even when physically absent while eldest daughters and female kin are tasked with taking over household chores (Asis, 2006; Parreñas, 2002; 2005a; 2005b). While earlier studies have also often portrayed left-behind fathers as shunning nurturing roles and engaging in drinking and drug-taking habits as a form of escape from their reversed situation (*see* Parreñas, 2005a and Gamburd, 2005), more recent work has shown that fathers do play an increasingly important role both as left-behind and long-distance carers (Hoang and Yeoh, 2011; McKay, 2011; Yeoh and Lam, forthcoming).

The migration of one or both parents often also results in the transference of the task of caring for left-behind children onto other relatives – often female – such as aunts and grandparents. Such support networks for left-behind families of low-skilled migrants is especially noted by Hugo (2002) to be of key importance in maintaining resilient family lives in the absence of one parent. However, having extended kin care for left-behind families may not always be ideal as such arrangements can lead to various familial, social and monetary disputes, weakening of ties and even the splitting up of extended families due to differences in expectations (Bruijn et al., 1992; Gamburd, 2000; Hugo, 2002). It is also important to note that despite the special call at the 30th session of the Commission on Population and Development in New York in 1997 (UN-NGLS, 1997; UN ECOSOC, 1997) for greater attention to be given to the impact of migration on left-behind elderly, we

⁶ See Battistella and Conaco (1998), Dwiyanto and Keban (1997), Gardner (1995), Skeldon (2003) and Smith-Estelle and Gruskin (2003).

still know fairly little of how they cope with their children's absence and the state of their relationships after migration. Available evidence seems to suggest that the costs outweigh the benefits as left-behind elderly may experience health problems and stress from being saddled with looking after their grandchildren (Knodel and Saengtienchai, 2002). Hugo's (2002) study in the Indonesian context further suggests the abandonment of the elderly as a result of the dwindling of the 'carer generation.' In contrast, Xiang's (2007) review of studies on the left-behind elderly in rural China shows that although the elderly felt lonely without their children, a higher percentage of them expressed that they were satisfied with their lives compared to those whose children had remained behind. There also appear to be mixed effects on left-behind children being cared for by grandparents. Left-behind children in China may develop behaviors at two extremes under their grandparents' care; becoming either withdrawn or excessively aggressive as their grandparents either spoil or neglect them (Xiang, 2007).

Findings from the CHAMPSEA Project generally show mixed care arrangements for left-behind children in the four study countries when one or both parents migrated (*see* Hoang et al., forthcoming). The prevalence of traditional gender norms in assigning nurturing roles to women and breadwinning roles to men is also apparent here as mothers across all four countries continued to be the main carers of children when both parents lived at home⁷ (90.0 percent) or when fathers were away (93.6 percent). One distinctive finding of this study though is the relatively high levels of left-behind fathers in Indonesia, the Philippines and Vietnam⁸ being reported as the main carer in the majority of mother-migrant households (67.8 percent).⁹ As described by Hoang and Yeoh (2011) and Yeoh and Lam (forthcoming), more men in the CHAMPSEA Project were willingly stepping forward to assume mothering roles during their wives' absence and being proactively involved in childcare. As compared to mother-carers, it was noted that a larger percentage of father-carers tend to remain engaged in paid work, generally spend fewer hours in care work and, akin to other studies, are more likely to perform care work with the help and support of other family members. Upon closer inspection, it was noted that a higher

⁷ Only 7.3 percent of main carers were identified as fathers in non-migrant households.

⁸ Thailand is excluded due to the small sample of Thai mother-migrant households.

⁹ This is a comparatively higher rate than Senaratna's (2012) and Save the Children's (2006) studies where only 12.2 percent and 25.9 percent of the Sri Lankan fathers, respectively, were reported as primary carers in mother-migrant households. It is, however, lower than Hugo and Ukwatta's (2010) 2008 study where over 80 percent of Sri Lankan fathers with migrant spouses were identified as the main carer.

percentage of Vietnamese mother-carers (68.2 percent) than Vietnamese father-carers (61.3 percent) actually received support and help in caring. This could be attributed to the higher proportion of Vietnamese mother-carers (62 percent) who continued engaging in paid work as compared to Indonesian (29.9 percent) and Filipino (27 percent) mother-carers. Overall, CHAMPSEA's father-carers were also more likely to be caring for older than younger children.

While the general feedback from various parties, including children, migrant-mothers and fathers themselves, indicate that father-carers were adjusting to and performing their new roles well, their unease and difficulties were perceptible through the interviews. First, father-carers felt rather uncomfortable and inadequate when caring for daughters who have reached puberty. Aside from facing stress, exhaustion as well as health problems due to juggling care work and paid work, father-carers also felt restricted in their movements, sharing that they had to stay at home and give up their own personal social time (Yeoh and Lam, 2013). It was interesting to note from the SRQ composite scores that the existence of a probable psychological vulnerability is higher among Indonesian father-carers (30.8 percent) than mother-carers (26.9 percent) when their spouses are away.¹⁰ The reverse is true for respondents from migrant households in the other two countries, where mother-carers (14.8 percent Filipino; 22.9 percent Vietnamese) are more likely to be psychologically vulnerable than father-carers (10.7 percent Filipino; 11.8 percent Vietnamese). Except for Vietnamese father-carers from non-migrant households (13.8 percent), carers in non-migrant Indonesian (23.7 percent mother-carers; 5.6 percent father-carers), Filipino (13.5 percent mother-carers; 9.5 percent father-carers) and Vietnamese mother-carer (16.1 percent) households are less likely to be psychologically vulnerable. This finding warns us to steer away from stereotypical thinking that left-behind female-carers can cope better simply based on traditional gender roles. Overall, though the larger proportion of carer-respondents among all migrant households in the three countries appear to be managing well in the migrant's absence, one-fifth of the group – regardless of gender – may be suffering from a probable psychological vulnerability (Table 1).

As reflected in Table 1, migrants in the CHAMPSEA Project also relied on other family members or non-parental carers, such as maternal and/or paternal grandparents, aunts and uncles as well as other relatives and

¹⁰ Recommended by the World Health Organization and commonly used to screen for mental health problems, the Self-Reporting Questionnaire (SRQ20) was used in CHAMPSEA as a measure of caregivers' mental health. A proposed "cut off point of 7/8, with scores of 8 or more defining 'cases,' was used to identify probable mental health problems" in respondents (Graham and Jordan, 2011:777).

TABLE 1
THE EXISTENCE OF A PROBABLE PSYCHOLOGICAL VULNERABILITY AMONG
CARER-RESPONDENTS OF CHAMPSEA HOUSEHOLDS IN INDONESIA,
THE PHILIPPINES AND VIETNAM

Carer Type	No (SRQ Score below 8)				Yes (SRQ Score 8 and above)				Total			
	Migrant		Non-migrant		Migrant		Non-migrant		Migrant		Non-migrant	
	N	%	N	%	N	%	N	%	N	%	N	%
Mother-carer	554	79.9	1,053	82.1	139	20.1	229	17.9	693	100	1,282	100
Father-carer	367	80.1	109	89.3	91	19.9	13	10.7	458	100	122	100
Close female relative carer	287	75.9	29	76.3	91	24.1	9	23.7	378	100	38	100
Other*	52	88.1	3	60	7	11.9	2	40	59	100	5	100
Total	1,260	79.3	1,194	82.5	328	20.7	253	17.5	1,588	100	1,447	100

NOTE: * Other carers include non-female relatives (e.g. grandfathers and uncles) and non-relatives (e.g., domestic workers)

older siblings of left-behind children, and to a minimal extent, non-family domestic workers, for help in providing childcare. Notwithstanding both-parent-migrant families who had to rely completely on non-parental carers, a higher proportion of mother-migrant families (31.9 percent) as compared to father-migrant families (6.4 percent) entrusted their children to non-parental carers. Interestingly, Vietnam – unlike Indonesia and the Philippines – is the only country that did not enlist the help of left-behind children's older siblings, other relatives and domestic workers. This could be associated with the strong emphasis on the parental education and disciplining of children in the Vietnamese society, also the only CHAMPSEA country that exhibits the enduring influence of Confucianism in social life. The findings from the literature and CHAMPSEA reinforce the importance of supporting left-behind carers and maintaining their well-being in order to ensure the quality of the surrogate care for left-behind children and improve their welfare. Unfortunately, dedicated programs targeted specifically at supporting and appreciating the efforts of carers are relatively scarce. Thus far, only a few non-governmental organizations (NGOs), such

as Women's Development Foundation (WDF) in Sri Lanka and Atikha in the Philippines, have limited initiatives that help left-behind father-carers and families in terms of caregiving.¹¹ However, these programs appear to be conducted only on an ad hoc and sporadic basis. More can definitely be done to help different left-behind carers in coping with their additional roles during the migrant's absence.

Communications

The adverse social and emotional effects of migration on the health of familial relations are not predetermined. With the resources available, physically absent migrants may still personally contribute to the durability of the family at 'home.' Studies in the Philippines have earlier shown that female migrants worked actively at maintaining a sense of connection with their children through phone calls, letters and other means of long-distance communication (Asis, 2002; Parreñas, 2005a, 2005b). In turn, the higher frequency of communication between children and migrant parents also appears to contribute to better well-being outcomes as reflected in the 2003 Children and Families Study conducted in the Philippines (ECMI/AOS-Manila et al., 2004). This finding corroborates the CHAMPSEA analyses, which reveal a deficit in child well-being from the children's perspective when the circuits of communication with mother- and/or father-migrants are not maintained. Overall, feelings of abandonment expressed by left-behind children of migrant mothers have been found to decrease when mothers continue to show their care through frequent intimate communication and close supervision over their left-behind offspring.

Whatever the costs and triumphs, efforts made in sustaining the family across distance may be regarded in itself as a form of resistance against the circumstances. Modern transport as well as information and communication technologies (ICT) are instrumental in helping families keep transnational ties alive, transforming the ways in which transnational family members are able to bridge geographical separation, sustain and fulfill familial ties and obligations. Though useful, ICTs may not be easily accessible to the larger proportion of low-skilled, low-wage migrants who leave their families in home countries with little or no possibility of family reunification or settlement in host (and often developed) countries. These migrant workers, akin to the respondents in the CHAMPSEA Project, are often on fixed-term contracts that come with restrictive terms and low salaries prohibiting them

¹¹ Atikha provides psychological counseling and other interventions for left-behind families and implements school-based psychosocial programs for children of migrants. For more details about Atikha's activities, see <http://atikha.org/index.php>.

from visiting or even maintaining regular communication with their families over extended periods of time. This largely explains why left-behind children from working-class families are more likely to feel abandoned since they have less ability to sustain transnational communication with migrants (Parreñas, 2005b).

The obstacles faced by migrants in utilizing ICTs can be broadly categorized under three main points: affordability, poor infrastructure and restricted opportunity. Firstly, many migrants are already financially disadvantaged and their low wages have direct implications on their (in)ability to maintain ties with the family at a distance.¹² In Vietnam for example, Hoang and Yeoh (2012) found that owning a mobile phone has until recently been a largely middle-class marker because the phone is itself expensive and is accompanied by high tariffs for texting, and for domestic and international calls. In fact, fewer Vietnamese migrant families own cellphones as compared to the non-migrants. It is equally expensive to make international calls from a landline phone. While the recent processes of privatization and equitization of the Vietnamese telecommunications sector have increased competition and driven down domestic phone tariffs, international communication tariffs remain high in comparison with other countries in the region (Hoang and Yeoh, 2012). As a result, most Vietnamese households surveyed in CHAMPSEA maintained a one-sided communication with migrant parents who paid less to call home due to the availability of cheaper prepaid phone cards overseas (Hoang and Yeoh, 2012). Although communication via the Internet using programs, such as email and Skype, is cheaper than phoning, it had not become the most popular method of communication because few migrants and their families can afford the equipment or were even computer literate (Graham et al., 2012).¹³ This is particularly true for the Indonesians where a lower percentage of Indonesian CHAMPSEA migrant households own computers compared to the non-migrants and Vietnamese CHAMPSEA households. Of the few Vietnamese households (0.6 percent) that reported using the Internet in addition to the phone, only two had computers with Internet connection at home and were thus able to maintain regular communication with the migrant parent, while the rest accessed the Internet in local shops on an irregular basis ranging from once a week to once a year (Hoang and Yeoh, 2012).

¹² One underlying problem in many migrants' (especially Vietnamese) infrequent communication with their left-behind families and also their inability to afford ICTs can be attributed to the highly exploitative 'migration industry' (Hoang and Yeoh, 2010).

¹³ Though Internet cafés provide more affordable access for some, pre-arranging contact times presents practical difficulties related to working hours and different time zones.

Secondly, difficulties in maintaining frequent communications with the family in the country of origin also stem from the underdevelopment of ICT infrastructures in some countries of origin (Hoang and Yeoh, 2012). Non-migrant family members living in areas where the communication infrastructure is less developed, tend to have greater gaps of information because they have never been to the country where their migrant kin now live and work (Carling, 2008). As Carling (2008) argues, they are more likely to experience frustration and anxiety over the failure to communicate effectively across transnational spaces. Mahler (2001) notes that differential access to means of communication exacerbates existing asymmetries, creating unequal power and corresponding dependency.

Within the CHAMPSEA Project alone, one difference between the Philippines and Indonesia is notable: "7 percent of Filipino children said that e-mail was their main means of communication with a migrant parent, whereas none of the Indonesian children mentioned the computer" (Graham et al., 2012:806).¹⁴ This reflects the differential availability of modern means of communication between the sampled communities in the Philippines and Indonesia.¹⁵ Children in the Philippines appear to have greater access to modern communication technologies and therefore have greater opportunity to practice individual agency in different ways (Graham et al., 2012). Even so, Filipino older children's accounts reveal considerable differences in their access to modern modes of communication. Those who had their own mobile phones were able to text an absent parent whenever they wished, whereas others had to go (or be taken) to a relative's house or an Internet café to make contact. Nevertheless, the majority of these older children and their families shared the experience of having to wait for the migrant parent to call them. A few mentioned the strategy of making a missed call first to let the migrant parent know that they were ready to receive a call, suggesting that even in situations with more developed telecommunications infrastructure, cost (thus revisiting the point of affordability) may still be an important factor regulating the frequency of contact.

Finally, perhaps the most important limitation on the opportunities for contact afforded to migrant workers concerns the demands and proscript-

¹⁴ The sample of children mentioned here refers to older children aged 9 to 11 years. Younger children between 3 and 5 years old were not surveyed.

¹⁵ With a longer migration history and strong emphasis on long-distance communication, it is also unsurprising that a much higher proportion of CHAMPSEA Filipino migrant households own working computers, telephones and cellphones when compared to non-migrant households. However, there is only a slight difference in terms of the ownership of these items between migrant and non-migrant households in the other countries.

tions associated with their conditions of employment (Graham et al., 2012). For example, domestic workers (women) often have to wait until they have time off from the prying eyes (and ears) of their employers to make contact with their families back home while men may not face the same restrictions. The gender-disaggregated survey data from the CHAMPSEA Project is thus useful in revealing interesting differences between mothers' and fathers' communication intensity due to their different occupational circumstances. Graham et al. (2012:806) found that a worrying minority of older children in the Philippines and Indonesia "had no contact with their migrant parent, and this occurred more frequently for those with migrant mothers." Only one percent of the older children in the total sample had no contact with their migrant father, but nearly seven percent of the older children in the total sample, of which an overwhelming majority are Indonesian, are not in touch with their migrant mother. For Indonesia, the Philippines and Vietnam, father-migrants were more likely to communicate with the family daily or at least a few times a week as compared to mother-migrants (30.1 percent and 10.8 percent, respectively for daily communication; 25.4 percent and 22.8 percent, respectively for communicating a few times per week). CHAMPSEA's findings on the higher likelihood of mother-migrants maintaining more infrequent and limited communication than father-migrants concurred with another study of 122 Filipino overseas foreign worker (OFW) households conducted by UNICEF (Edillon, 2008), but contrasted with Parreñas' (2005b, 2008) findings in the Philippines where migrant mothers tend to communicate with their families, especially children, more frequently than migrant fathers.¹⁶

When delving into the qualitative data for possible explanations to this seemingly counter-intuitive communication pattern, Hoang and Yeoh (2012) found that a large number of female migrant workers in the Vietnamese sample were engaged in domestic work overseas, which has been shown by earlier studies (cf. Douglass, 2007; Yeoh and Huang, 1998; Yeoh et al., 2005) to be a highly circumscribed type of work. Furthermore, it is common for domestic workers in some Asian countries, such as Singapore and Taiwan, not to be allowed access to both landline and mobile phones, presumably to prevent them from developing social networks outside the employer's home (Douglass, 2007; Yeoh and Huang, 1998). Within Hoang and Yeoh's (2012) study, 13 of the 23 Vietnamese mother-migrants were doing domestic work in Taiwan and they tended to communicate with the family less frequently than those who held other jobs. Their ability to communicate was

¹⁶ The contrasting findings could be due to methodological differences which this article is unable to explore further.

primarily dependent on the generosity of employers, which varied from one case to another. This was evident in the accounts of some children of mother-migrants, who said that their mother calls them 'on her day off,' 'every Sunday,' or 'every vacation time.' When measured against the expectations of those left behind, such restrictions may contribute to mothers' feelings of guilt toward their families. Besides being a communication tool, the mobile phone plays an additional role in enabling domestic workers to 'escape' the physical confines of their employers' homes and maintain an existence beyond their lives as maids (Thomas and Lim, 2011). The ability to use ICTs in transnational communication is therefore particularly important for migrant domestic workers' individual well-being given their usually highly restrictive and isolated living and working environments.

Therefore, contrary to popular discourses about the processes of deterritorialization as a result of globalization and technological advancements (cf. Appadurai, 1996), findings from the CHAMPSEA Project demonstrate that national borders, state policies and socio-economic lines maintain their significance, particularly for the less privileged people in the developing world (Hoang and Yeoh, 2012). Having been relegated to the bottom of occupational hierarchies (cf. Liang, 2011), migrant workers with low levels of education and poor language proficiency are unable to maintain their transnational ties as economic disparities contributed to transnational families' uneven access to the so-called 'social glue of migrant transnationalism' (Vertovec, 2004). This is similar to Graham's (2002:36) view that the use of ICTs 'represents an extraordinary extension in the social, economic, cultural and geographical powers' of the privileged, thereby accentuating socio-spatial polarization. People's decision to maintain transnational ties at varying degrees of intensity is thus largely conditioned by the socio-economic contexts they are situated in and does not always reflect their preferences (Hoang and Yeoh, 2012).

ICTs are not powerful enough to challenge the barriers and spaces created by these structures, especially when it comes to the emotional dimension of family life. Addressing the challenges posed by affordability, infrastructure and the opportunity to communicate are, hence, crucial to helping migrants and their families sustain relationship across space and to benefit the well-being of left-behind children. Thus far, efforts by migrant support groups, religious organizations and even telecommunication companies to provide free or cheaper access to ICTs in host countries are heartening. For example, the Archdiocesan Commission for the Pastoral Care of Migrants and Itinerant People (ACMI), the embassy of the Republic of Indonesia and the Humanitarian Organization for Migration Economics (HOME) run short-term computer classes for migrant workers in Singapore. HOME also offers these workers computer access at its helpdesks.¹⁷

SingTel, one of Singapore's three main telecommunications company, also offers special rates for calls and texts to the Philippines and Indonesia on its prepaid services, which are specially targeted at domestic workers.¹⁸ Unfortunately, these efforts remain uneven and disparate. More can be done to reach out to migrants in confined situations as well as families living in more remote areas.

Debts and the Use of Remittances

Sending remittances home is often a reaffirmation of migrants' commitment toward their left-behind kin. Analyses of the use of remittances by left-behind families show that while there is a general consensus that remittances constitute a valuable economic contribution to the family, their long-term effects are contentious. Some uses of remittances include purchasing basic necessities, repaying debts taken to cover the costs of migration, investment and buying luxury goods. While a large proportion of remittances are used to sustain basic needs, the distribution of remittances to other expenses, mitigated by kin obligations, is significant in influencing the long-term economic benefits to the family. The extended family may be helpful in utilizing migrant remittances for business investment purposes through the provision of information, thereby facilitating wealth creation for left-behind kin. Such prudent reciprocal treatment of remittances strengthens the relationship between migrants and left-behind family members.

Some households, however, remain trapped in a vicious poverty cycle even upon the receipt of remittances from migration. This is especially evident in accounts of mother-migrant households where left-behind husbands squander away the remittances from their migrant wives on 'social activities' such as drinking and gambling. For cases where remittances have been mismanaged, conflicts over the control of money and how it should be spent is thus a common occurrence between the migrants and their left-behind spouses.¹⁹ In some cultures, the social expectation of women to be mindful of the well-being of their families removes their control over their own incomes. Some families do not treat migrants' failure to remit

¹⁷ Apart from ICT-related activities, ACMI, the Indonesian Embassy and HOME also offer other programs for migrant workers in Singapore. For details, see ACMI, 2012; P3K, 2012; HOME, 2012.

¹⁸ For more details about SingTel's special program, see Sing Tel, 2012.

¹⁹ Refer to Barber (2000), Gamburd (2000) and Sampang (2005) for more information on remittances and family relationships.

money kindly, continually plying pressure and increasing expectations and thus creating considerable stress for the migrants. In many parts of South-East Asia, the privileging of male over female offspring often mean that the income and remittances sent back by young women migrants are channelled to their brothers' education, or to facilitate their migration, while the women themselves are not accorded similar opportunities for self-improvement (Asis, 2000).

While the economic benefits of labor migration in the form of remittances have often been taken for granted, little attention has been paid to the fact that a significant portion of migrants' earnings goes to debt payment resulting, therefore, in limited effect on poverty reduction. As Hoang and Yeoh (2010) uncovered, many of the transnational labor migrations in Asia are arranged by brokers – legal or illegal – who are known to charge exorbitant fees, sometimes well beyond the legally sanctioned amount and driving migrant families into debt. Compounding the situation, the decision to migrate is sometimes made with inaccurate information and migrants thus run high risks of being cheated of their money, exploited or repatriated prematurely.²⁰ Various studies, including evidence from the CHAMPSEA Project, have suggested that large amounts of debts incurred through migration may compel migrant workers to overstay their visas, run away from legal employers or commit crime (Wickramasekera, 2002). In the case of 'failed' migration, the burden of debts has dire consequences on the health and well-being of the left-behind family, especially children and the elderly (Hoang and Yeoh, 2010).

Unsurprisingly, debts repayment ranked among the top three uses of remittances – after basic needs (first) and children (second) – for respondents from all four countries within the CHAMPSEA Project. Vietnam is, however, one country that is notably different as nearly half of the Vietnamese migrants (47 percent) rated the use of remittances for debts as top priority, even before their children (second) and basic needs (third). This is possibly because many Vietnamese migrants have to borrow money, with or without interest, from various sources in order to fund the high costs of migration especially to countries such as Korea and Japan (Hoang and Yeoh, 2010). Their efforts to clear their debts may be further hampered by unforeseen misfortunes such as financial crises, rogue brokers or bad employers.

²⁰ This article does not seek to demonize brokers or agents, but agrees with Lindquist et al. (2012) on the need to view objectively their roles in enabling migration within the broader infrastructure comprising the state and market. Similarly, it acknowledges that migrants' personal networks and social capital may all contribute to influencing migration outcomes and even out the playing field.

Therefore, while international migrant remittances – which have increased by 58 percent to US\$232 billion between 2001 and 2005, whereby developing countries received the biggest share of around US\$167 billion – have made undeniably significant contributions to the national economy of developing countries, not all families benefit from overseas labor migration (World Bank, 2006:xiii). Despite labor migration being one of the endemic family strategies for economic survival in the developing world, its success – as observed in Vietnam – is potentially derailed by the enormous amount of debts migrants take on to pay for costs such as brokerage fees and relocation. Economic outcomes of migration are hence marginal for many families and they face risks of bankruptcy and destitution in the event of ‘failed’ migration.²¹ The economic stress caused by debts incurred to fund migration is detrimental to not only the migrant’s well-being but also that of the left-behind family, especially children and the elderly. The problem lies largely in the absence of appropriate legal frameworks, the inefficiency of the state management of labor exports and the lack of political will in the protection of migrant workers’ rights. Migration, while increasingly important for development, may even possibly cause underdevelopment without adequate political tools and measures to effectively address the ‘migration industry’ as well as support both migrants and their families (Portes and Zhou, 2012). It is thus important for governments, organizations and even banks to step in to assist the migrants. Some good practices have already been observed in the Philippines and Sri Lanka where the government has set up insurance schemes to protect migrants, while private institutions have initiated programs to help migrants and their families manage their remittances.²² Other countries can benefit greatly by following suit and tightening up the migration industry.

²¹ There are minimal differences in the mean value of wealth (0.679 and 0.624) and asset ownership (0.627 and 0.600) between migrant and non-migrant CHAMPSEA households, respectively.

²² For some examples of government-regulated migration management, see Asis, 2006; 2008 (Philippines) and Gamburd, 2000 (Sri Lanka). In the Philippines, financial programs for migrants and their families have also been developed by various agencies. IOM and Atikha developed the Financial Planner that provides a practical guide for migrant workers and their families to manage their finances wisely. (For details, see <http://www/bsp.gov.ph/downloads/FinancialPlanner.pdf>). In addition, the Central Bank of the Philippines (BSP) has a number of initiatives geared towards improving the remittance environment of OFWs. (For details, see http://www/bsp.gov.ph/about/advocacies_ofws.asp).

Recommendations for Supporting Migrants and their Left-behind Families

The earlier sections of this article have illustrated three major issues of migration on left-behind families that need to be addressed: support structures for left-behind carers; costs of communication and communication infrastructure; and remittances and debt repayments. However, given that these issues are highly variable and complex, and are affected by the circumstances and policies relating to broader processes including development and urbanization at different levels, they cannot be handled single-handedly by the state alone. Here, we offer different sets of suggestions to the various actors, including civil society, businesses and local communities in labor-sending areas,²³ who each have a role to play in supporting left-behind families.

Effective Regulation and Control of the 'Migration Industry'

In Asia, where labor migration on fixed-term contracts has become the most important form of transnational mobility, commercial migration brokers provide the most important channel of transnational labor migration. However, weak and inefficient state control over the labor export market coupled with the fact that the supply of labor always exceeds demand put migrant workers and their families at the mercy of exploitative brokers who mislead and overcharge them at will. The following measures can be taken at the policy level to reduce risks and exploitation associated with labor migration:

- Institutionalization and expansion of support services for migrants and their families — Some concrete measures include creating a tariff-free central hotline service that provides information and counseling services as well as allows migrants and their families to share their difficulties; stationing labor attaches and/or welfare officers in embassies/consulates in major labor-receiving countries to provide support to migrant workers; allowing and supporting the creation of an independent institution acting as an ombudsman in labor disputes; and imposing heavy penalties on labor agencies that violate laws and/or fail to protect the rights of their workers (ranging from monetary fines to license cancellation).

²³ While it is necessary to interrogate the migration policies in both sending and destination countries as they are closely interlinked, this article is only able to target its focus on the perspectives of labor-sending countries. See Platt et al. (forthcoming) for policy recommendations for labor-receiving countries.

- Establishment of a legal fee frame that assigns part of the broker's fee to the employers to increase their accountability and at the same time, relieve the financial burden on the migrant family — this requires inter-governmental collaborative effort among major labor-sending and receiving countries.
- Investing in and improving the quality of telecommunication infrastructure in labor-sending countries.

Establishment of Support Schemes Directed at Left-behind Families

Special attention should be paid to the two most vulnerable groups in left-behind families: children and the elderly. Concrete measures to be taken include:

- Counseling services offered to children of migrants and other left-behind members
- Extra academic support offered to children of migrants by schools

Civil Society

Civil society can support left-behind families in different ways at different levels:

- Communication with migrants is the key to the well-being of left-behind families. Community-based organizations may help establish and run Internet centers that provide migrant families with free access to Skype, MSN or any locally popular instant Internet messaging services so that they can keep in touch with migrants.
- NGOs can offer migrant families training on financial literacy, including remittances management and consultation on investment strategies.
- NGOs and community-based organizations may engage both migrants and their families in pre-departure briefing to raise awareness on the importance of sustaining communication over time and distance and prepare them to cope with any problems relating to long-term separation.

Businesses

Banks can play an important role in supporting left-behind families in different aspects:

- Providing prospective migrants with low-interest loans, not requiring collaterals for small loans, simplifying procedures and relaxing eligibility criteria. These proposals will help families avoid taking high-interest loans from exploitative moneylenders.
- While large parts of remittances are spent on basic necessities, high bank charges that discourage migrants from sending money home regularly may put left-behind families in precarious situations. Hence, it is important to drive down remittance charges and offer migrant families specialized investment products and services such as insurance, pension and real estate services.

In conclusion, our research points to the need to first acknowledge both the benefits and costs of international labor migration and to work towards understanding the interplay of economic and social factors shaping the cost-and-benefit matrix at the level of family practice. In this way, governments, together with civil society and businesses, can better work together to create effective legal and institutional frameworks as well as suitable supporting mechanisms for the growing group of migrants and their left-behind families so that migration can be a sustainable development strategy with minimal negative impacts on both migrants and left-behind families, especially children and the elderly.

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Tobacco Use and Exposure among Children in Migrant and Non-migrant Households in Java, Indonesia*

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This research note aims to understand the impact of parental migration on the children who stay behind by examining the issue of smoking. It asks whether tobacco use and exposure are higher among children in migrant households compared with those in non-migrant households in Java, Indonesia. Data were collected in 2008 in two provinces, West Java and East Java, as part of the Child Health and Migrant Parents in South-East Asia (CHAMPSEA) Project. The analytical sample used here relates to children aged 9, 10 and 11 living in both non-migrant and transnational households (N=451).

The findings show that the incidence of ever having smoked among these primary school-aged children is relatively low at less than 10 percent, but that boys are much more likely to have used tobacco than girls. Findings from multivariate logistic models predicting smoking behavior show no difference between the children of migrants and non-migrants; nor does household wealth appear to influence whether or not a child has tried tobacco. Gender, child stunting (low height-for-age), carer's education, family functioning and tobacco use by friends are the four main factors found to be significantly associated with child smoking.

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Introduction

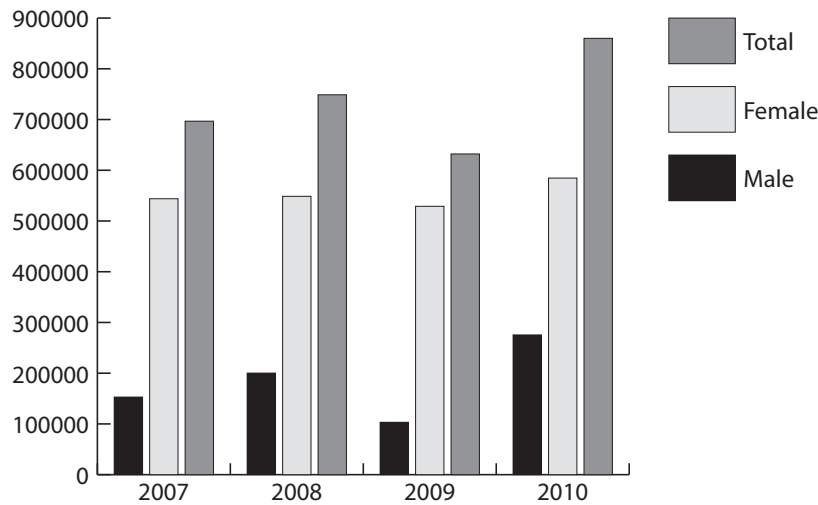
Youth tobacco use is a serious problem around the world, as well as in Indonesia. Smoking is a leading cause of several diseases, worsens currently-experienced health conditions, and is considered to be an unhealthy habit and lifestyle (Hardinge and Shryock, 2001). White and Watt (1981) revealed that a person smoking 19 cigarettes per day is likely to reduce his or her life span by as much as 5.5 years. Further, smoking is associated with increased risk of major chronic diseases (Aditama, 2002). It is estimated that about 200,000 Indonesians die from smoking-related illnesses yearly (Tuszynski, 2010).

Hidayat and Thabrany (2010) noted that the prevalence of smoking among adults (15 years and above) in Indonesia is significantly high and is increasing, especially among males. In the period between 1995 and 2004, the prevalence of smoking among males increased from the already elevated level of 53.4 percent to 63.1 percent. Even though the prevalence of smoking among females is relatively low, the rate more than doubled, from 1.7 percent to 4.5 percent, over the same period. Given the size of the Indonesian population, the public health consequences of smoking are significant. Nevertheless, no restrictions are imposed on tobacco companies. The companies can advertise in various media outlets, including television and billboards. Tobacco companies sponsor scholarships for the youth, popular sporting events and concerts aimed at the young, thereby increasing the likelihood of exposure and association of smoking with pleasurable and desirable activities. Thus it is unsurprising that tobacco consumption is rising. Reflecting both the significant increase in population and rising rates of consumption, cigarette consumption increased from 33 billion in 1970 to 217 billion in 2004, putting Indonesia as the fifth largest consumer of cigarettes in the world (WHO, 2006).

In the Global Youth Tobacco Study (GYTS), Martini and Sulistyowati (2005) found that among young adolescents aged 13 to 15 years old in Jakarta, almost 47 percent had ever smoked cigarettes, 22 percent currently used any tobacco product, and 21.8 percent currently smoked cigarettes. Interestingly, among those who ever smoked cigarettes, 19 percent smoked their first cigarette before 10 years old. Even though Indonesia is not the worst case compared with some of the other countries in the GYTS study, the figures are alarming. The concern over trends in youth tobacco use has also been reflected in the Indonesian media with recent national television news showing children as young as three years old smoking cigarettes.

The infamous case of a two-year old Indonesian child smoking a cigarette which was transmitted around the world prompted concerns not only among the public, but also the government and NGOs. This child is

FIGURE 1
PLACEMENT OF INDONESIAN LABOUR OVERSEAS 2007-2010



Source: BNP2TKI.go.id (2012)

apparently addicted to cigarettes. It was reported that his father gave him his first cigarette when he was 18 months old. According to the father, the toddler would throw a tantrum if not given a cigarette. The Indonesian toddler smokes up to 40 cigarettes a day. This disturbing incident is part of a larger landscape where about two percent of Indonesian children have started smoking by age four (Phillips, 2012). About 3.2 percent of them are active smokers, and the trend is on the rise. While these percentages may seem low, it is crucial to emphasize that these young smokers are all under five years of age and may be seen as indicative of an environment in which smoking is socially acceptable. Smoking behavior among young teenagers is higher – about 25 percent of boys aged 13 to 15 are addicted to smoking (Sagita, 2012).

The onset of smoking at an early age raises the importance of parental guidance. When parents are absent, such as the case of parents working abroad, there are concerns that children may not be properly guided. With significant numbers of mothers and fathers of young children migrating overseas to fulfill the economic needs of their families, Indonesia has become known as a “migration nation.” Figure 1 shows the stock estimate of documented Indonesians working abroad between 2007 and 2010. By 2010,

more than 860,000 Indonesians were working abroad (<http://pusdatinaker.balitfo.depnakertrans.go.id/katalog/download.php?g=2&c=17>). The number of female international labor migrants is more than double that of male migrants. This 'feminization of migration' has been occurring since the early 1980s and has been discussed in a number of studies (Sukamdi et al., 2004; Hugo, 2004; Setiadi, 2004; Wee and Sim, 2004; Asis, 2003).

Economically, international labor migration has been shown to benefit not only the migrant and the household but also the economy of origin, although many researchers have documented the problems faced by migrants (Faturachman, 2002; Setiadi, 2004; Sukamdi et al., 2004; Sukamdi, 2006). Families are likely to benefit in several ways, including increased income from remittances, better education for the children, and the adoption of positive practices and ideas learned from the destination countries. However, there may also be negative effects related to the vulnerability of left-behind children, which have largely been neglected in previous research. When parents (mother, father or both) migrate, children lose a role model in the family. Consequently, they may look elsewhere for alternative role models and, possibly, be more vulnerable to copying risky behaviors such as smoking.

Given the recent increases in tobacco use among young people in Indonesia, smoking behavior warrants further investigation because it presents significant concerns for the current and future health of children. This becomes even more important in view of the possibility that the rising incidence of smoking among children could be related to the increasing absence of parents, such as what occurs when one or both parents migrate for work leaving children behind. However, the potential effect of having a migrant parent/s is uncertain. On the one hand, parents play an important role in disciplining a child's behavior and the absence of parents may thus lead to the smoking behavior of children due to lack of parental supervision. On the other hand, since a child who sees their parent/s smoking may be more likely to try using tobacco themselves, parental migration could decrease the incidence of smoking in children if a smoking parent is absent. Given this ambiguity, examining the relationship between the initiation of smoking behavior and migration is an important area of inquiry with potential health implications for Indonesia. To date, the issue of smoking among children of migrant parents has not received attention from either academic researchers or policymakers. This research note examines the smoking behavior of primary school-aged children in order to investigate the following questions:

1. Does tobacco use among children differ between those living in non-migrant and transnational (migrant) households?
2. What characteristics of children and their households are significantly associated with ever having used tobacco?

Smoking Behavior and Children

Aritonang (1997) argued that smoking is a complex behavior resulting from the interactions of cognition, the social environment, psychological conditions, and physiological conditions. In the cognitive aspect, smokers seem to have low awareness of the dangers of smoking. In the social aspect, most smokers claim that they smoke due to the influence of others around them. This reason is one of the important causes of smoking. Psychologically, many people smoke for relaxation, to reduce tension and to briefly forget problems. Sari et al. (2000) studied the effect of empathy on smoking behavior among 150 Indonesian students aged 15 to 22 years. They found that active smokers who have empathy for non-smokers refrain from smoking in public places. The same study revealed that smokers were initiated into smoking when they they were children, similar to the findings reported by Komarasari et al. (2000).

Green (1991), as cited in Martini and Sulistyowati (2005), included three main aspects related to smoking behavior in their conceptual model: predisposing, enabling, and reinforcing factors. Predisposing factors are those antecedents to the behavior that provide the justification for the behavior. They include knowledge, attitudes, beliefs, values, and perceptions that facilitate or hinder motivation for change. Enabling factors are the antecedents to behavior that enable a motivation to be realized. They are the skills, resources, or barriers that can help or hinder the desired behavioral changes, as well as environmental factors. Accessibility, referrals, rules or laws are also considered enabling factors. Reinforcing factors are those subsequent to a behavior that provide the continuing reward or incentive for the behavior and contribute to its persistence or repetition. In their study, Martini and Sulistyowati (2005) reported that children of high school age were more likely to smoke if they co-reside with smokers. They argued that family smoking is a predisposing factor (children may think that if their parents smoke, then smoking is acceptable), an enabling factor (others in the household are a ready source of cigarettes), and a reinforcing factor (young people may smoke socially with other family members).

Previous empirical studies examining tobacco use among young people in South-East Asia have highlighted the important influence of family and friends. Rudatsikira et al. (2008), for example, used a Social Ecological Model (SEM) of health behavior to explain cigarette use among adolescents. Their model explains that individual-level factors and socio-cultural environment factors may contribute or interact to influence cigarette smoking behavior. Their findings show that, in Thailand, having parents and friends who smoke is a strong predictor for smoking. Another study in Vietnam (Minh et al., 2011) found that parental smoking significantly increases the risk of

smoking among students (age 13 to 15), while having friends who smoke is the strongest predictor of smoking status and susceptibility to smoking. Another study in Semarang, Indonesia (Smet et al., 1999) revealed similar findings, namely that having friends who smoke is an important explanatory variable for the incidence of smoking among young people. Bindah and Othman (2011), based on a literature review, also argued that parental and peer smoking behaviors are good predictors of adolescent smoking behavior. Most previous studies of smoking among young people have focused on teenagers rather than primary school-aged children but they underline that smoking behavior is a complex issue with multiple determinants. The GYTS shows that around a fifth of Indonesian teenage smokers had their first cigarette by aged 10, so it is important to increase understanding of the factors that influence the initiation of smoking behavior among young children. In the light of published findings, the smoking behavior of family and friends is expected to be influential but, in this study, an additional factor is investigated – namely the presence or absence (due to international migration) of parents in the child's household.

Data and Methods

The research was conducted in two provinces in Indonesia with a large number of international labor migrants, namely East Java and West Java. In each of these provinces, communities within two districts having the highest volumes of international migration were selected for household screening. For the CHAMPSEA Project in Indonesia, a total of 1,036 migrant and non-migrant households were recruited for the survey, each with an index child (IC) in one of two age groups.² The current study selects children aged between 9 and 11 years at the time of interview and uses data collected from the children themselves and from adult members of their households. Around half of the children lived in transnational households, and the other half was living in households where both parents were usually resident or non-migrants. Table 1 presents a breakdown of the analytical sample (N = 451) by the migrant-carer status of the household. Cases where both parents were international migrants (n = 34) were dropped due to the small numbers in this group, as were an additional 28 cases (5.8 percent of the sample after dropping cases where both parents were migrants) for which data were incomplete.

The analysis distinguishes between children in non-migrant house-

² Further details on the CHAMPSEA sampling methodology are provided in the Editorial Introduction to this volume.

TABLE 1
COMPOSITION OF THE ANALYTICAL SAMPLE BY CHILD’S GENDER AND
HOUSEHOLD MIGRANT-CARER STATUS

Child’s gender	Non-migrant household	Transnational Household			Total
		Father-migrant/ mother carer	Mother-migrant/ father-carer	Parent-migrant/ other carer	
Girl	120	36	54	17	227
Boy	124	37	53	10	224
Total	244	73	107	27	451

holds and those in three types of transnational household. As has been noted above, Indonesian men are much more likely to smoke compared with women. It is therefore important analytically to distinguish children of migrant fathers cared for by their mothers, who may be less likely to be exposed to parental smoking compared with the second group of children of migrant mothers cared for by their fathers. The third group consists of children with either a migrant mother or father, being cared for by a substitute carer who is usually a grandparent. Exposure to smoking in the household may be lower for these children given lower tobacco use in older generations. The outcome of interest is based on self-reported data on children’s smoking behavior. Children were asked about their experience of tobacco use: “Have you ever tried cigarette smoking/spit tobacco and snuff/cigars/pipes/hokkah or flavored cigarettes like bidis or kreteks, even one or two puffs?” The data show that 8.5 percent of the sample had ever used tobacco (Table 2). Although the percentage of children who had ever used tobacco is relatively small, it is alarming considering the age of

TABLE 2
CHILD EVER USED TOBACCO BY GENDER

Child ever used tobacco	Gender					
	Girl		Boy		Total	
	n	%	n	%	n	%
Yes	4	1.76	36	16.07	40	8.87
No	223	98.24	188	83.93	411	91.49
Total	227	100.00	224	100.00	451	100.00

TABLE 3
PREVALENCE RATES FOR CHILD EVER USED TOBACCO BY HOUSEHOLD TYPE

Child ever used tobacco	Transnational Household (TH)										Total n
	Non- migrant household		Father- migrant/ mother- carer		Mother- migrant/ father- carer		Parent- migrant/ other carer		Total TH		
	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	
Yes	19	7.79	6	8.22	13	12.15	2	7.41	21	10.14	40
No	225	92.21	67	91.78	94	87.85	25	92.59	186	89.86	411
Total	244	100	73	100	107	100	27	100	207	100	451

the children. This suggests that some children in the study communities start smoking at a very early age, and supports Aditama’s (2002) study, which found that more than one percent of current and ex-smokers in Indonesia started smoking when they were less than 10 years old, and the study by Barber et al. (2008), which showed that 1.7 percent of current smokers in 2007 began smoking between ages five and nine. As Choe et al. (2001) argued, the younger people start smoking, the more likely they are to become strongly addicted to nicotine. However, the risks are not evenly spread out (Table 2), with a much higher prevalence of smoking among boys (16.07 percent) compared with girls (1.76 percent). This strong gender difference is consistent with the patterns for young adult smoking found by Reimondos et al. (2012) in their study in Jakarta. Similar findings have also been reported in other Indonesian studies, such as those conducted by Choe et al. (2004), Martini and Sulistyowati (2005) and the Ministry of Health Republic of Indonesia (2008).

Assuming that children of migrant parents are not as closely supervised as their peers who live with both parents, we might expect that they are more likely to smoke than children of non-migrant parents. Table 3 shows the prevalence rates across different household types. The prevalence rates for children in non-migrant and transnational households (7.8 percent and 10.1 percent, respectively) appear to lend some support to this assumption. Further, among children in transnational households, the highest prevalence rate (12.2 percent) is found for children of migrant mothers left in the care

of their fathers, which is in line with the suggestion that because Indonesian fathers are much more likely to smoke than mothers, children of migrant mothers may be especially at risk. However, no firm conclusions can be drawn from the prevalence rates as other factors may also be associated with ever having used tobacco, including child, peer and family factors. Based on the literature review and the aims of the study, additional variables from the CHAMPSEA data set were therefore selected for inclusion in the analysis, which was conducted in two phases. First, bivariate relationships were examined to reveal patterns of association; and secondly, a series of multivariate logistic regression models was fitted to identify those factors significantly associated with a child ever having smoked.

In addition to the principal independent variable –migrant-carer status of the household –the child's gender and age were included to account for higher prevalence rates among boys and the expectation that older children are more likely to have ever smoked (Model A). Standard measures of child stunting and child psychological difficulties were then entered to account for the children's physical and mental health (Model B). Stunting is defined as a height-for-age z score of more than two standard deviations below the median of the 2006 World Health Organization (WHO) Child Growth Standards, while a case of psychological difficulties, or poor mental health, is identified by a total difficulties score of 17 or more from the Strengths and Difficulties Questionnaire (SDQ). Next, the age and educational attainment of the child's principal caregiver or carer were added as markers for the quality of care the child receives, along with three household variables – household wealth, whether or not the household is intergenerational, and good family functioning (Model C). The household wealth index is based mainly on housing quality and the ownership of consumer durables, as described in the Editorial Introduction to this volume. Good family functioning was included as a potentially protective factor and is identified using the child's report on the Family APGAR (Adaptability, Partnership, Growth, Affection and Resolve), with scores of 13 or more taken as indicating that a child perceives his/her family as functioning well. Lastly, three binary measures of exposure to smoking are added in Model D: (i) whether or not the child has older siblings (older siblings who smoke are a recognized risk factor for the early initiation of younger siblings); (ii) whether or not family members use tobacco (a well-established risk factor); and (iii) whether or not friends use tobacco (another proven risk factor). The latter two are derived from child reports and capture children's awareness of smoking by those around them. Table 4 provides a list of the selected variables and descriptive statistics showing the distribution of the outcome measure (child ever used tobacco) across each of the variables.

Results

The examination of prevalence rates above revealed the gender bias of smoking initiation, with a male prevalence rate of over 16 percent and a female prevalence rate of under two percent. Boys are thus much more likely to have ever used tobacco than girls and among these child smokers, more than 90 percent are male, as is the general pattern of smoking in Indonesia. The majority of children who had ever used tobacco are 10 or 11 years old, but over 17 percent are 9 years old. Overall, the proportion of children who had ever smoked living in transnational households is only slightly higher compared with those in non-migrant households, but there is a notably higher percentage of child smokers in mother-migrant/father-carer households compared with father-migrant/mother-carer households (32 percent and 15 percent, respectively). In relation to health, more children who have ever smoked are also stunted, compared with those who have not used tobacco, but in both groups less than 10 percent are identified as having psychological difficulties.

There are only marginal differences in the distributions of children who have ever used tobacco and children who have never smoked across the variables measuring caregiver and household characteristics. The higher percentage of those who have ever used tobacco in the medium wealth category is interesting because it suggests that financial constraints may limit risky behavior among children in poorer households. This may also explain the unexpected positive association between carer education and child smoking, with a higher percentage of children who have ever used tobacco being cared for by better educated caregivers (i.e., with more than primary school education). However, in general, the initiation of smoking appears to be minimally related to the socio-economic circumstances of the family. Chi² tests show that the only significant bivariate differences between groups, besides carer education, are for the two child characteristics, gender and stunting. It may be that the behavior of others is a more important influence on the child than their family circumstances.

Exposure to others who smoke has been reported as an important risk factor in previous studies of adolescent smoking. For this study, Table 4 shows that many primary school-aged children who have ever used tobacco also have family and friends who smoke but, surprisingly, are less likely to have older siblings. For the sample as a whole, 80 percent of children said that at least one member of their family smoked, reflecting the widespread use of tobacco among Indonesian adults. Of those children who had ever used tobacco, 90 percent have family members who smoke and 75 percent have friends who smoke. Interestingly, for children who have never smoked, the comparable figures are 78 percent and 37 percent, respectively. This

TABLE 4
PERCENTAGE DISTRIBUTION OF CHILDREN WHO HAVE (A) NEVER AND (B) EVER
USED TOBACCO BY SELECTED CHARACTERISTICS

Household and child characteristics		Child ever used tobacco (a) No %	(b) Yes %
Migrant-carer status	Both parents are non-migrants	54.74	47.50
	Father-migrant/mother-carer	16.30	15.00
	Mother-migrant/father-carer	22.87	32.50
	Parent-migrant/other-carer	6.08	5.00
Child's gender	Male	45.74	90.00
	Female	54.26	10.00 ***
Child's age (in years)	9	30.90	17.50
	10	34.55	42.50
	11	34.55	40.00
Child is stunted	No	74.45	60.00
	Yes	25.55	40.00 *
Child has psychological difficulties	No	92.94	90.00
	Yes	7.06	10.00
Carer's age	(mean age in years)	39.29	38.45
Carer's education	Primary or less	68.13	52.50
	More than primary	31.87	47.50 *
Household wealth	Low	40.63	27.50
	Medium	38.93	52.50
	High	20.44	20.00
Intergenerational household	No	82.97	80.00
	Yes	17.03	20.00
Family functioning is good	No	49.88	65.00
	Yes	50.12	35.00
Child has older siblings	No	58.64	72.50
	Yes	41.36	27.50
Family uses tobacco	No	21.65	10.00
	Yes	78.35	90.00
Friends use tobacco	No	62.53	25.00
	Yes	37.47	75.00 ***
Total		100	100
n		411	40

***p<.001, **p<.01, *p<.05

suggests that children who have never smoked are less likely to have friends who smoke, and vice versa. The importance of peers, as highlighted in several studies (see Bindah and Othman 2011), suggests the importance of wishing to 'fit in' with peers for the children in the CHAMPSEA sample. The multivariate analysis allows further examination of this possibility.

Multivariate Results

The results of the logistic regression models predicting whether a child has ever used tobacco are shown in Table 5, which reports odds ratios (OR) and associated confidence intervals (CI). Model A examines the migrant-carer status, accounting only for child gender and age. No significant differences are found between children in non-migrant and transnational households. Although children aged 10 years are over two times more likely than 9-year-olds to have tried tobacco, this finding is only marginally significant ($OR = 2.30, p < 0.1$) and is not observed for 11-year-olds. It is gender that shows the strongest relationship, with girls much less likely to have ever used tobacco compared with boys ($OR = 0.09, p < 0.001$). Model B adds variables measuring the child's physical and mental health. It shows that psychological difficulties are not significantly associated with using tobacco but that nutritional status (stunting) is, with children who are stunted being more than twice as likely to have tried tobacco compared with those who are not stunted ($OR = 2.23, p < 0.05$). Model 3 then adds carer and household characteristics. Neither household wealth nor living in an intergenerational household is significantly related to children's use of tobacco. However, both carer's education and the measure of family functioning are significant in the model. Children cared for by those with more than primary education are more than twice as likely to have ever tried tobacco compared with children cared for by less educated carers ($OR = 2.06, p < 0.1$), which is not as initially expected. On the other hand, the observed relationship between good family functioning and child tobacco use is in the expected direction, with children who regard their families as supportive and functioning well being only half as likely to have ever used tobacco compared with children in less supportive families ($OR = 0.50, p < 0.1$). The inclusion of these variables further increases the likelihood of tobacco use for children who are stunted ($OR = 2.54, p < 0.05$) but gender remains the most important predictor of child smoking in all three models.

In the final model (Model D), three exposure variables are added to capture different aspects of risk. Once all other factors are taken into account, there is no evidence that having one or more older siblings is significantly associated (positively or negatively) with a child having used tobacco. This is not a surprising result as the variable does not indicate whether older

TABLE 5
HIERARCHICAL LOGISTIC REGRESSION MODELS PREDICTING CHILD EVER USED TOBACCO (N=451)

Variables	Model A			Model B			Model C			Model D		
	OR	95%	CI	OR	95%	CI	OR	95%	CI	OR	95%	CI
Migrant-carer status (<i>Non-migrant household</i>)												
Father-migrant/other-carer	1.11	0.41	3.01	1.10	0.40	3.00	0.75	0.26	2.22	0.65	0.20	2.16
Mother-migrant/other-carer	1.68	0.77	3.66	1.67	0.76	3.70	1.55	0.67	3.64	1.65	0.68	3.99
Parent-migrant/other-carer	1.35	0.27	6.60	1.40	0.28	6.97	1.36	0.26	7.21	1.31	0.23	7.35
Child is a girl	0.09	0.03	0.26***	0.09	0.03	0.25***	0.09	0.03	0.27***	0.12	0.04	0.36 ***
Child's age (<i>9 years</i>)												
10 years	2.30	0.90	5.92^	2.53	0.97	6.62^	2.45	0.92	6.63^	2.63	0.93	7.42^
11 years	1.89	0.73	4.86	1.84	0.71	4.79	1.95	0.73	5.22	2.14	0.76	6.04
Child is stunted				2.23	1.09	4.58*	2.54	1.19	5.42*	2.80	1.27	6.17 *
Child has psychological difficulties				1.21	0.37	3.92	1.81	0.53	6.13	1.95	0.53	7.22
Carer's age in years							0.99	0.94	1.04	0.99	0.94	1.04
Carer's education (<i>Primary or less</i>)												
More than primary							2.06	0.92	4.61^	2.46	1.05	5.76 *
Household wealth (<i>Low</i>)												
Medium							1.68	0.72	3.94	1.75	0.72	4.27
High							1.46	0.49	4.36	1.81	0.56	5.80
Intergenerational household							1.47	0.57	3.78	1.21	0.44	3.32
Family functioning is good							0.50	0.24	1.04^	0.44	0.20	0.98 *
Child has older siblings										0.61	0.26	1.41
Family uses tobacco										2.63	0.81	8.53
Friends use tobacco										4.33	1.87	10.02 **
Log likelihood	-116.20590			-113.80322			-108.63617			-99.156004		

NOTE: ***p<.001 **p<.01 *p<.05 ^p<.1

sibling/s smoke, which would have been a better measure had it been available in the CHAMPSEA data set. However, sibling smoking may be partly captured in the second exposure variable measuring whether any family member smokes. The results indicate that this variable is also not related to the likelihood of children ever having smoked. Most interestingly, among the three exposure variables, it is peer group smoking that is significantly associated with children ever having used tobacco. Children who have friends who smoke are over four times as likely to have tried tobacco themselves compared with children whose friends do not smoke ($OR = 4.33, p < 0.01$).

In summary, children are significantly more likely to have ever used tobacco if they are boys, have friends who use tobacco, are cared for by a carer with more than primary education and are physically stunted, but significantly less likely to have ever smoked if their family functions well. Overall, the multivariate models demonstrate that the child's gender is the most important predictor of children's smoking behavior. As would be expected, based on other investigations with older young people, girls are significantly less likely to smoke compared with boys. In contrast to past studies identifying family smoking as an important predisposing factor (Martini and Sulistyowati, 2005), the present study finds that family smoking does not predict smoking behavior among children. This is unsurprising as the majority of children in the sample (80 percent) have at least one family member who smokes, and therefore this variable is less discriminating than the measure of friends smoking, where only 41 percent of children have friends who smoke. Further, the results not only corroborate the findings of other studies which have observed that peer (friends) smoking positively influences smoking behavior among adolescents, but extend these findings to a younger age group. The positive association between carer's education and child tobacco use is strengthened in the final model. This is interesting because in developed countries, there is a strong association between parent education and children's exposure to smoking, but in the opposite direction (Kovess et al., 2013). One possible explanation is that better educated carers in the CHAMPSEA Project generally live in relatively wealthy households rather than the poorest households, and that there is a financial threshold below which child tobacco consumption is less affordable.

The final statistically significant predictor of tobacco use among children is child stunting. The measure of stunting can be interpreted as a proxy for early childhood deprivation, as well as indicating the current nutritional status of the child. The cross-sectional analysis is unable to shed light on the processes linking child smoking and low height-for-age, but it does highlight an area that merits further investigation. For example, what other conditions are prevalent in the family and community that may predispose children to

multiple health risks of malnutrition and tobacco use? Understanding this relationship better could help to design interventions in the future to address these important population health challenges. Other factors examined in the models are statistically insignificant. Neither household wealth nor parental migration is found to be associated with the smoking behavior of children, suggesting that concerns about a general lack of discipline and care among children of migrant parents may be misplaced. Nevertheless, the relationships among these factors are complex and the models do not take into account the effects of past parental absence. Future research should examine the interrelated factors of early childhood deprivation, tobacco use and parental migration longitudinally to better understand the relationships.

Closing Remarks

The overall incidence of smoking among the CHAMPSEA children is relatively low at 8.5 percent, but the crucial factor is to recall that these children are less than twelve years old. Our data indicate that, for some, the initiation of smoking begins at a very young age, and this finding alone warrants greater population-based attention to the issue of youth smoking in Indonesia. Moreover, the prevalence rate for boys is much higher than for girls at more than 16 percent. The health consequences are alarming, yet there is continued high exposure of young children in Indonesia to tobacco products and smoking through mass media (including advertisements) and there is no government regulation on media outlets.

On the other hand, parental migration does not appear to have a direct negative relationship with children ever having used tobacco. This provides some measure of information to help quell debates on the negative side effects of parental migration, a situation which is very common among Indonesian families and a means to help lift households out of poverty; nor is there evidence that higher levels of household wealth increase the risk of primary school-aged children using tobacco, at least directly. It may be, however, that household wealth has a greater effect during teenage years when young people are likely to have more control over their pocket money and spending. Whereas childhood smoking is associated with having a relatively more educated carer in this study, good family functioning acts as a protective factor. Further investigation is needed to clarify the interrelationships between these factors and household wealth. However, it is very clear that friends' smoking behavior plays an important role in influencing children's tobacco use. The influence of peer smoking on the key outcome measure of child tobacco use suggests that children, anxious to be seen as part of the group, may be adopting risky health-related behaviors in response to peer pressure. This could be an important area on

which to target future interventions. In the Indonesian context, preventing early initiation into smoking may be the most effective way of reducing the currently very high prevalence of smoking in adulthood.

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